DEC 12 1911

Containing a Manufacturers' Equipment Supplement

VOL. X. NO. 5 $1.00 A YEAR

DECEMBER, 1911

SELLING ELECTRICITY and ELECTRICAL MERCHANDISE

Published by THE RAE COMPANY, 17 Madison Ave., New York

The Most Satisfactory Big Unit

The practical advantage of the 400 and 500-watt incandescent lamp depends in large measure upon the efficiency of the equipment it is used with. For industrial lighting service, the most satisfactory 500-watt units are equipped with

Holophane D'Olier Steel Reflectors

made with either aluminum or porcelain enamel finish. These units are designed according to Holophane standards to give the most desirable distributions of light. They maintain the Holophane standard of quality. They give complete satisfaction in service.

Data on all types now ready. Ask for bulletin.

HOLOPHANE COMPANY, SALES DEPARTMENT NEWARK, OHIO

New York Boston Philadelphia Chicago San Francisco London

Holophane Company, Ltd., 62 Front St., W., Toronto, Canada

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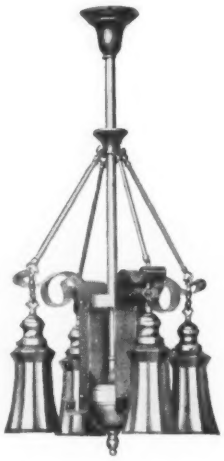
Beardslee Designs

"All kinds for all purposes"

This slogan indicates the variety of our line.



Trade Mark

Will You Have Our Latest Catalog?

Beardslee Chandelier Mfg. Co.

The House of Quality

216 So. Clinton Street, Chicago

$250,000.00 increased yearly revenue by Excess Indicators

1 year's record

We increased the revenue of Lighting Companies under contract with us $250,000.00 per year.

Our Salesmen actually sold and obtained cash for over 150,000 25-watt Mazda Lamps this year to previous non-consumers of electricity.

This New Business required nearly $500,000.00 worth of wiring—which was sold and paid for.

To quote one of our Customers, we have "the Best New-Business Proposition ever offered."

What we did for others this year we can do for you next year—Write us.

Excess Indicator Company

105 West 40th St., New York, N.Y.

1911

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Useless Discussion

IN a good many offices, they hold practically an annual convention to consider the problem, "What lamps shall we buy next year?" The General Manager and the Purchasing Agent and the Engineer get together to consider the faults in quality and service rendered during the life of their old contract and to listen to the arguments of other salesmen.

Buckeye customers indulge in no such useless discussion.

When a Buckeye contract expires, the Purchasing Agent, as a matter of form, says to the General Manager, "I'm renewing our lamp contract on the same basis." "All right," is the reply. That's all. No questions: no criticism.

Because the buyer of Buckeye Lamps gets the quality demanded by the most rigorous specifications and the service which satisfies the most exacting.

Every department of The Buckeye Electric Company is keyed up to the Buckeye standard—a standard of efficiency that no other lamp organization has even approximated. This efficiency is maintained for every customer and on every order.

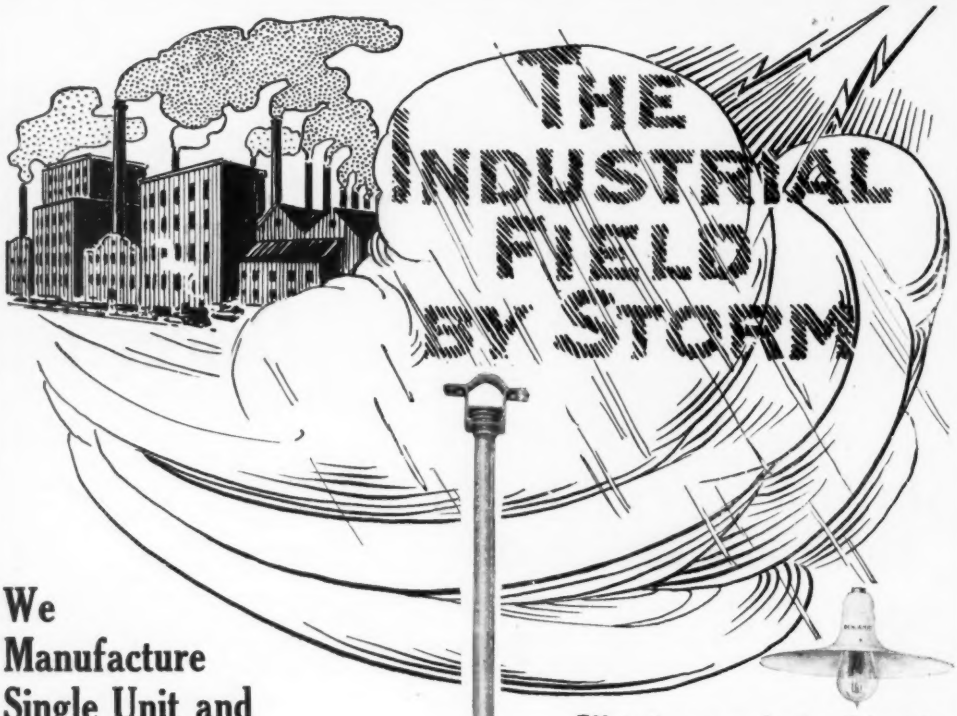
And there is nothing spectacular about Buckeye methods. We simply make the best lamps we know how and deliver them exactly as the customer wants them.

That is why Buckeye customers lose no time in useless discussions as to what lamps they shall buy next year. They know the answer in advance—Buckeye.

THE BUCKEYE ELECTRIC CO.

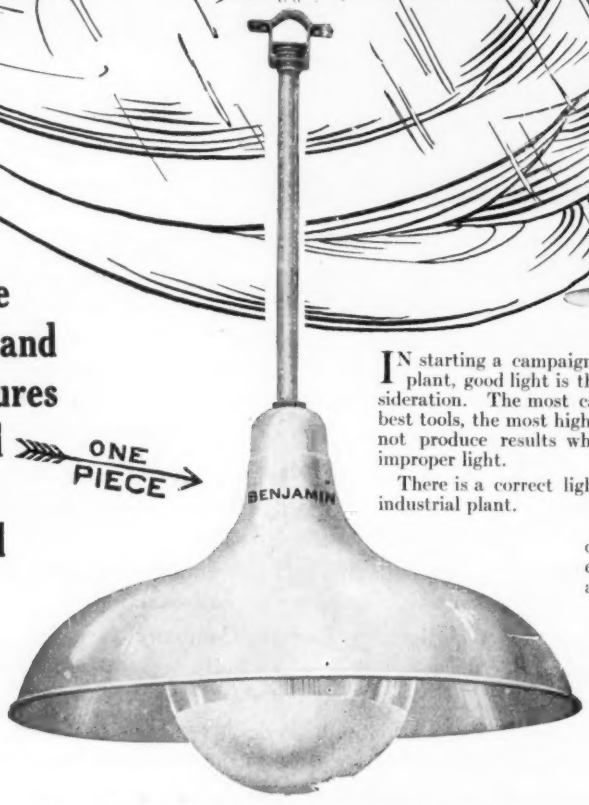
CLEVELAND

CHICAGO PITTSBURGH DALLAS BOSTON



We Manufacture Single Unit and Cluster Fixtures Covering all Conditions of Industrial Lighting

ONE PIECE



IN starting a campaign for efficiency in a plant, good light is the fundamental consideration. The most careful planning, the best tools, the most highly trained men cannot produce results when handicapped by improper light.

There is a correct light for every kind of industrial plant.

There is also a correct light for every department of an industrial plant.

These features have been given particular study by our engineers.

Write us for Photographs of Large Installations

BENJAMIN ELECTRIC MFG. COMPANY

Manufacturers of

Reflector Sockets and Enameled Steel Mill Cluster
Tungsten Fixtures for In-and Out-Door Lighting

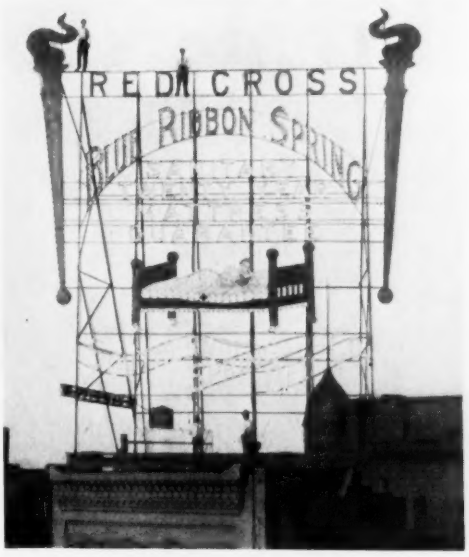
Wireless Clusters

New York
Toronto

CHICAGO
120-128 So. Sangamon Street

Lighting Specialties

San Francisco
London, Eng.



This Sign Advertises Two Things:

THE

Red Cross Sanitary Mattress

AND

Blue Ribbon Springs

Mr. Hass, Manager of the Southern Spring Bed Company of Atlanta, Ga., says that his "local store business has increased to more than double" since this sign was erected, and that "he has felt the might of this advertising all over the South."

There are 2000 lamps in the sign and a number of colors with plenty of action—The two messages alternate—RED CROSS SANITARY MATTRESS—BLUE RIBBON SPRING, TWENTY YEAR GUARANTEE—with the manufacturer's name below. The sign stands at the hub of the city of Atlanta.

This is a typical Greenwood sign, for the dominant note is

Individuality

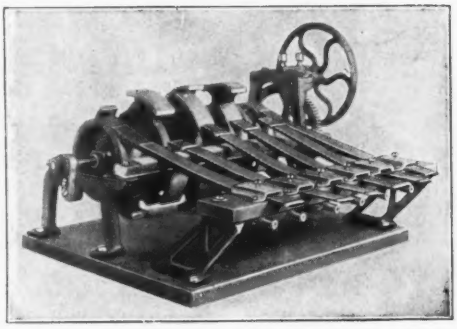
It is a new idea; there are two signs in one and the night effect is strong and appealing. The construction is the best that care and brains can do.

This consumer is "thoroughly pleased"—he says so—and that's what the central station wants—That's what *you* want. You can always buy that kind of sign from

Greenwood Advertising Co.

Knoxville, Tenn.

PROMPT SHIPMENTS!



No. 4 Heavy Brush, $36.00 List

Dull's Flashers

Are nearly all in stock. A telegraph order, or one received in the mail before 10 o'clock a.m., is generally put on the cars the same day. Ordinary combinations go out on the second or third day. Our records do not show a complaint on a delayed delivery on our part in the

PAST FIVE YEARS

This means a great deal to you. You can order when the sign is finished, and the flasher will be there by the time the sign is hung.

REYNOLDS DULL FLASHER COMPANY
16-20 SOUTH FIFTH AVENUE CHICAGO

HOW TO REAP THE CHRISTMAS HARVEST—

Take advantage of the opportunity to permanently increase your day load by calling the attention of your consumers to the

Thor Electric
Home Laundry Machine

A Practical Electrically Operated Christmas Gift For The Home. Sizes, Prices and Designs to Meet The Various Requirements.

Send for Free Illustrated Catalog "E" and take advantage of our extensive Christmas campaign.

Hurley Machine Company
25 South Clinton Street, Chicago
New York, 1012 Flatiron Building

Electric Christmas Gifts are Popular

They combine novelty and beauty with practical everyday usefulness.

Nearly 90% of the yearly sales of *ordinary* chafing dishes, percolators and similar devices occurs at Christmas time. The holiday sales of chafing dishes alone approximate ten to every thousand inhabitants.

Take advantage of this well-known trade tendency and *this year* sell electrically-heated chafing dishes, percolators, etc., to those people who would otherwise buy the old-fashioned kinds.

If you haven't received your copy of the Christmas edition of the "Electrical Advertiser" or the booklet on "Miniature Decorative Incandescent Lamps" (fruit, flower, nut and animal), write for them.

General Electric Company

Schenectady, N. Y. 3305

In writing to advertisers, mention "Selling Electricity"

People have asked us—"What is this ABolite? Why is it different from any other reflector?" Perhaps it looks that way to you.

ABolites are complete lighting units—not just reflectors. They are combinations of socket, shade holder and insulating joint. In addition there is an ingenious "positioning device" (see the central cut) which holds the socket, and is reversed to adjust for a change in lamp base.

ABolites make it possible to change from a short base to a long base lamp, without substituting another type of shadeholder—and still secure maximum illuminating efficiency. Many a clever installation has been ruined by the changing of lamps, for the lamp and reflector must be in the proper relative position to secure full value in illumination. When you change the lamp base in an ABolite, a shift of the positioning device keeps the lamp in focus.

ABolites are made in both Ceiling and Pendant types, and equipped with either Glass or Metal Reflectors for all Angles of Illumination.

Install ABolites and insure efficient illumination with any lamp.

Write for the Data Sheets.

The Adams-Bagnall Electric Co., Cleveland

New York Philadelphia Pittsburg Syracuse Chicago Atlanta

R. E. T. PRINDLE, Canadian Representative

Head Office, Windsor, Ont. Branches, Montreal, Toronto, Winnipeg

SELLING ELECTRICITY and ELECTRICAL MERCHANDISE

VOLUME X NUMBER 5

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Entered as second-class matter, February 28, 1908, at the Postoffice at Brattleboro, Vermont, under Act of Congress of March 3, 1879.

Copyright by THE RAE COMPANY 1911

For Most Cases

of city delivery the Electric Truck is the best proposition from every standpoint.

For the greatest all-'round satisfaction equip the truck with the

"National" Storage Battery

Because the plates are thoroughly made for sustained capacity and durability. Because the patented cell connections change the otherwise tedious job of inspecting cells to a quick, simple operation.

Because this Battery is backed by a thoroughly reliable, straight dealing company.

Manufactured by

The United States Light and Heating Company

General Offices: 30 Church St., New York. Factory: Niagara Falls, N. Y.

Sales Offices and Depots

New York Boston Buffalo Cleveland Detroit Chicago St. Louis

In writing to advertisers, mention "Selling Electricity"

© CLB250079

SELLING ELECTRICITY
and ELECTRICAL MERCHANDISE

Edited by FRANK B. RAE, Jr. EARL E. WHITEHORNE, Managing Editor

The "People's Electrical Page" Idea

How This Co-operative Newspaper Advertising is Being Conducted in Many Cities—What It Costs and What It Accomplishes

By Philip S. Dodd

The "People's Electrical Page" idea has been pretty extensively advertised within the electrical industry, since its establishment in Cleveland three years ago. It has been commented upon repeatedly in the electrical journals, it has been described and discussed in conventions of the National Electric Light Association, and sample pages have been widely circulated by the National Electric Lamp Association, and by others. Yet, it is doubtful if many central station men have ever considered it seriously in its application as a practical medium of publicity within their own cities, or have realized that it is anything more than a local expression of the spirit of co-operation, which has been developed among the various interests located in the city of Cleveland, Ohio.

Philip S. Dodd

Over three years ago it was that Mr. M. E. Turner, contract agent for the Cleveland Electric Illuminating Company, first succeeded in securing sufficient support for this enterprise to enable him to put it into effect as a "People's Electrical Page," appearing weekly in the *Cleveland News;* a page devoted exclusively to popular news items on matters electrical, and supported financially by the small display advertisements of the local contractors, supply dealers, and others, who could benefit by a wider public interest in electric service. This "People's Electrical Page" has now been running in the *Cleveland News* for over three years, appearing weekly, and another and similar page has just completed its second year of publication in the *Cleveland Plain Dealer.* A third page appears in the *Cleveland Leader.* In addition to this, there are other People's Electrical Pages in operation in other cities, in the following leading newspapers: *Milwaukee Journal, Youngstown Telegram, Dayton News, Washington Times, Boston Post, Leavenworth Times, Louisville Courier-Journal, New Orleans Item.*

A further list of newspapers that are now engaged in the organization of

People's Electrical Page features, and may be expected to begin publication shortly, are: *Pittsburg Press*, *Chicago News*, *Buffalo Commercial*, *Denver Post*, *Minneapolis Journal*.

This list in itself is impressive, but when you consider that the combined circulation of those journals, already conducting a People's Electrical Page, totals 738,000 readers and that the further circulation of those other papers, who are about to join the movement, is 592,000 readers, it becomes strikingly apparent that this medium before long will be exerting a continuous and consistent educational influence on the minds of one and one-third millions of people, who are practically every one of them either present or prospective customers of some central station whose lines are well within service distance. And these figures, mind you, embrace only the actual purchasers of these papers, without regard to the other members of the families, who read the newspapers in the home. The editorial matter in the People's Electrical Page is of such a nature that it is widely read by both men and women.

For several years, I have been interested and actively working to further the spirit of practical co-operation, which has become such a factor in the development of the electrical industries. I can say, without hesitation, that I know of no co-operative plan which promises a more direct or basic value to us all, than this co-operative electrical advertising, which Mr. Turner has made so effective in the Cleveland dailies. And as a result of long and patient labor, the plan has been brought to a state of economic efficiency, where it may be considered a thoroughly practical business proposition.

ELECTRIC NEWS
Thirty-Dollar Electric Vibrator Only $17.50
National Electrical Supply Co.
1330 New York Avenue
See Our New Type Car
Washington Motor Vehicle Co.
213 L Street N. W
The Edison Storage Battery
has made the Electric Vehicle
J. D. FERGUSON
Electric Domes for Dining Room or Library
O. R. Evans & Brother
720 13th St. N. W
Model 1220 Coupe
Columbus Electric
ROOMY, LUXURIOUS, NOISELESS.
Pope Automobile Co.
819 14th St. N. W
You Will Believe in Signs
If You Have a
Valentine Electric Sign
It Will Boost Your Business
Valentine,
Atlantic City, N. J.
The "Electric" Toaster
Dulin & Martin Co.
1215 F St. and 1214-16 G St.
Night Signs Bring Day Business
FEDERAL STORAGE BATTERY
PHILADELPHIA
Federal Clusters, Sockets and Specialties
As Easy for the Little Ones as for the Grown-ups
Electric Light is Matchless
POTOMAC ELECTRIC POWER CO.
Phone M. 7260

A People's Page from the *Washington Times*. The special head is always the same.

To describe the character of the People's Electrical Page, we need not go into the details of its composition; the accompanying reproductions show its appearance, with its advertisements of local electrical concerns, and its columns of news or editorial copy. These two elements are essential:—the advertising for the support of the page and to insure direct results, and the electrical news and educational items, to create, in the minds of the

readers of the newspaper, an interest in the uses of electric current. And, because the average reader of the newspaper, the average man or woman in any city, is generally unfamiliar with electricity and its workings, on this editorial matter must depend the success or failure of the page. All the articles must be written in language simple and direct, shorn of all technical terms and confusing references, and, above all, must contain that element of "human interest" which appeals to young and old. It must be "newsy" and "easy to read," the kind of short items that we skim over and read aloud to whoever is at hand. It must tell something new, or something old in a new way, and always it must have an application that suggests the desirability of some phase of electric service. For the sole purpose of the People's Electrical Page is to build up the ever-broadening market for electric current and all that follows.

You will notice in the illustrations that two general styles of "make up" are being followed in publishing the page:—one, with a large heading and border and a title, such as "The People's Electrical Page," "Electricity," or "Home Electrical Page;" the other, where the page has no special heading, but appears not unlike any other newspaper page, the same style of head-lines and typefacebeingused. Of these two styles, the latter is generally pronounced the most effectual; but it is not always possible to disguise "commercial copy" in this way, because of the objections made by the newspaper management. In smaller cities, the newspapers are always too anxious to sell the advertising space to make any great point of the form of the page, leaving that largely to the discretion of the advertisers. In the larger cities, however, it is often impossible to convert an electrical page into a regular reading page because of the rules of the paper and sometimes it must even be branded "*advertisement*" at the very heading. This, however, need not detract from its effectiveness, for it is the contents of the page itself which will determine

The *Youngstown Telegram* "make up." It looks like an ordinary reading page.

its value in every case. The attitude of the newspaper will always determine the length to which the advertisers may go in editing and planning the page. My advice, however, would be to make the differences between this page and the other pages of the paper as few as possible.

The advertising matter on a page of this kind should be good display copy, in small spaces. Every local electrical concern should be represented by some space, even though it be only one inch per week. That small space is used to a very large extent is shown by the following table, which has been compiled from several papers now using the People's Electrical Page.

Newspaper	No. of Advertisers	Size of Space
Cleveland Plain Dealer	7	4 inches or less
	11	10 inches or less
	1	16 inches or less
Cleveland News	16	4 inches or less
	4	10 inches or less
	3	16 inches or less
Milwaukee Journal	5	4 inches or less
	3	10 inches or less
	11	16 inches or less
Dayton Daily News	4	4 inches or less
	1	8 inches or less
	2	20 inches or less
Boston Post	8	4 inches or less
	6	10 inches or less
	1	42 inches or less

The plan must be co-operative and everybody should be represented. It will do the inch-space advertiser more good in proportion to his expense, than it will the fifty-inch advertiser, for a concern, using a small space regularly, standardizes itself as an up-to-date business house. Its advertisement appears beside that of the central station and the participation of the central station vouches for reliability.

I thoroughly believe that the advertiser, who ordinarily takes large space in the newspaper, need take less space in a page of this kind to secure the same sales value. The advertisement on The People's Electrical Page has the advantage of the favorable mental attitude, which is created by the "atmosphere" of the page. The reader of the People's Page has his attention centered on the marvelous benefits of modern electric service and the news section and the ads are both a complementary and supplementary. The articles arouse the desire for the comforts of a vacuum cleaner, for instance, and an advertisement for vacuum cleaners suggests the medium for its fulfillment. The most efficient page, therefore, is the page that contains the greatest number and variety of small and pertinent advertisements, and the greater the co-ordination between the reading matter and the ads the greater the cumulative strength of the page.

As to the methods of inaugurating this plan of advertising in any city, it has been successfully worked in two ways: first and best, by the central station commercial department; second and easiest, by the advertising manager of the newspaper. That a page of advertising per week is a good thing for the newspaper cannot be denied. It is really a small mint for the small city paper, and for that reason I urge that the central station allow the advertising manager to do all the hard work of soliciting, billing, getting in copy, and all other details. I also urge that the central station commercial man retain authority and supervision of the general policies of the publication, for he alone will know what is best for the local electrical development, and on him the success of the page must depend.

In Cleveland, nearly all of the work on the People's Electrical Page now appearing in the three local papers has been done by Mr. Turner and his staff. In Washington, the newspaper and the central station have divided the work more equally, while in Youngstown, Milwaukee, and Louisville, the newspapers have had almost entire charge. The Electrical League or Club, in any city, is the logical organization to forward a project of this kind, and nothing can better prove the worth of such a society than

the handling of such a movement and the results they obtain. It has been my experience that in a society of this kind it is often difficult to obtain quick action and the plan is apt to suffer from procrastination; but if this one fault can be avoided, the local electrical club is the logical agent to take the initiative in organizing the page.

The Electrical Club, of Chicago, and the Electrical Boosters' Club, of Pittsburg, have each been active in backing Electrical Pages in their respective cities. In each of these cities, and in Chicago especially, People's Page is a serious undertaking, and it must be realized that it will require considerable time and attention; but, just as it is a big proposition, so is it a valuable one and its promoter will receive full benefit from the effort put into it.

As to the cost of the page: this depends entirely upon the importance of the paper which is employed. The accompanying table shows the approximate costs of the space used by electrical advertisers in several cities. The ratios are seen to vary widely—from $750 to $16.50. It will also be noticed that in some cities the papers

List of Papers now conducting a People's Electrical Page.

	Circulation	Columns	Length of col. inches	Col. inches	Advertising inches	Edit. inches	Weekly cost
Milwaukee Journal	72,000	7	21	147	60	87	$ 90.00
Youngstown Telegram	14,000	8	21	168	98	70	34.30
Dayton News	30,000	7	22	154	84	70	41.20
Cleveland News	60,000	8	21	168	120	48	192.00
Cleveland Leader M	60,000	8	21	168	120	48	180.00
Cleveland Plain Dealer M	85,000	8	21	168	120	48	300,00
Washington Times	47,000	7	20	140	105½	34½	221.00
Boston Post M	301,000	7	21	147	96½	50½	338.00
Leavenworth Times M	12,000	7	21	147	47	100	16.50
Louisville Courier-Journal M	27,000	7	21	147	100	47	210.00
New Orleans Item	30,000	7	21	147	100	47	210.00
Total	738,000						$1,833.00

Papers contemplating the publication of a People's Electrical Page.

Pittsburg Press	101,000	7	21	147	100	47	$ 140.00
Chicago News	327,000	8	21	168	100	68	750.00
Buffalo Commercial	25,000	7	21	147	84	63	159.00
Denver Post	62,000	7	21	147	100	47	150.00
Minneapolis Journal	77,000	7	21	147	100	47	180.00
Total	592,000						$1,379.00

Combined circulation of both groups, 1,330,000—Total Circulation.

Combined weekly cost, $3,212.00

where the rate for advertising is $720 per page, the plan runs into considerable money and, being of such size, the Club can best handle it. Occasionally, the central station is criticised by certain narrow-minded persons when it fosters the People's Page, but if the electrical club does the fostering then the central station is exempt from such criticism. The organization and maintenance of a

insist upon receiving payment for the space devoted to editorial copy and heading. Such is not the case in the smaller cities, nor would it be in the larger cities were the space not so valuable. All newspapers are anxious to make good rates for this proposition, but some papers have refused to vary from their card rates and insist upon charging for the ad space at the card rates, plus a flat rate for editorial

space. A bargain must be made with each paper, but these figures will be interesting for the purpose of comparison.

I can recommend no plan of electrical advertising which will produce more certain and direct results towards improving the local market for current and appliances than this People's Electrical Page. Every electrical concern, including the central station, telephone company, electric vehicle agency, electrical jobber, dealer, and contractor, should be interested and should co-operate to make it a success in every city of 50,000 or over. Let the central station commercial manager in every city start the work, by laying the plan before the local electrical interests, either by mail, personal call, or by invitation at an informal luncheon. Let him solicit the co-operation of the leading newspaper, and in a few weeks there will be sufficient advertising in sight to make the plan a success. Once having been started, the enthusiasm of the advertisers can be counted on to carry the page through the seasons for electrical advertising.

To aid in the furtherance of this form of advertising, the Department of Publicity of the National Electric Lamp Association will be glad to furnish, without cost, cuts and editorial matter for the reading columns of any People's Electrical Page, in any city. It is my sincere belief that this form of advertising will, before long, be in use in the majority of the larger cities; and I hope that this detailed explanation of the People's Electrical Page Idea, and these facts and figures, will serve to interest in this movement all progressive central station commercial men. The People's Electrical Page is by no means local to the city of Cleveland; it is already national in its scope, a practical, efficient, popular, educational medium that produces i m m e d i a t e and profitable returns, through the creation of a greater market for electric current.

It takes some little time to mentally grasp the full significance of the possibilities of a movement of this kind; one apparently so simple in its nature, and yet of such immense compass. One especially noteworthy feature of this new idea in electrical advertising is the fact that it is not a thing of which the people will grow tired in a short time. On the contrary, it will continue to bring increasingly good results, year after year, long after special campaigns conducted through such media as circulars, form letters, bill-boards, and the like, have been forgotten. Also, when we consider the large percentage of the total population of this country which is reached by the newspapers of just a few of the largest centers—our six largest cities have a population no less than 10,419,451—the possible scope of this opportunity becomes apparent.

The press of this country cannot have a better outlet for its editorial influence than in helping to propagate the idea that is embodied in such co-operative advertising.

Activity in Warren, O.

Mr. G. B. Barnett, formerly of the Lincoln (Neb.) Gas & Electric Company, has been engaged by the Warren (Ohio) Lighting Company as new business manager.

The Warren Company was taken over in July by Henry L. Doherty and Company, and numerous improvements in the plan and service have been made. A large extension of power business was secured by the new manager, Mr. Derge, who closed contracts for over 1,750 hp. within the first ten weeks after assuming the management.

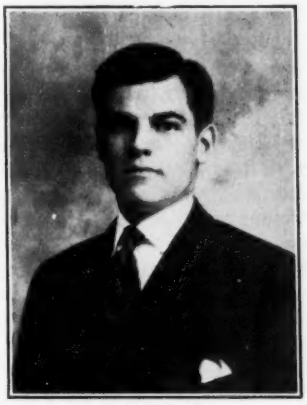
The new business work in Warren, under Mr. Barnett, will be prosecuted vigorously. Plans are now on the way for erecting a huge civic electric sign which will both advertise the advantages of Warren as a city and promote local interest in electric advertising. In the effort to secure the best possible slogan for Warren, the Committee is circulating return post cards, asking for suggestions for an appropriate phrase.

A Case of Compelling Co-operation

The Story of a Campaign for Ornamental Street Lighting in Peoria

By T. P. Pinkard
Manager Commercial Dept. Peoria Gas & Electric Company, Peoria, Ill.

Our new ornamental street lighting system is installed in the heart of the retail district, on a straight, wide street of fairly even grade, that was formerly very well lighted by series arc lamps, two unbroken lines of flat rate window lighting, a multitude of flat rate signs and some outline lighting, all of which remains excepting the arc system. It extends straight away for five solid blocks, without a break, on each side of the street, and consists of sixty-four Flour City Ornamental Iron Works Style No. 39759



T. P. Pinkard

five-light cast-iron posts, bolted to concrete foundations and arranged twelve posts to the block, six posts on each side of the street in each block, all equally spaced, 72 feet apart. This spacing is very satisfactory, and places the corner posts on the property line and not at the very corner on the curb line of the intersecting streets. Each post is equipped with four 60-watt and one 100-watt, 105 volt, multiple tungsten, wire type lamps in a vertical upright position, burning every night in the year from dusk to midnight and from dusk to dawn respectively.

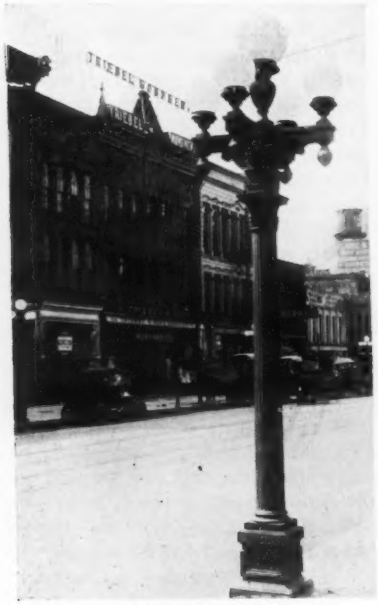
The control is effected in each block separately, if necessary, by electrically operated solenoid switches, the circuit for which is manually operated from the station two blocks away. The glassware is Macbeth 12-inch and 16-inch Alba globes, Alba glass adding much to the general appearance of this system, especially in the day time. The entire three wire 105-210 volt cable system on both sides of the street is drawn into fibre conduits laid in concrete under a new curb which was being placed at the time the lighting system was installed, and at about the center of each block is connected underground to the manhole in that block of our underground general distribution system. In this district there are no overhead wires and no other poles than the wires and poles of the street railway system.

The complete ornamental lighting system as described above was installed at the expense of the benefiting property owners and ground floor tenants, at the rate of $2.20 per property front foot, the proportion of this cost that the property owner and his tenant should pay for the frontage involved being left to them to decide, and in some few cases the tenant has paid the full amount. Under contract with the City, we furnish current and maintain the entire system at a flat rate of $50.00 per post per year.

Peoria, with a population of about 70,000, is the second largest city in the state, and is a wide-awake and hustling community, but its merchants and property owners were slow to become interested in ornamental street lighting.

About two years ago we induced one of our prominent merchants to install three five-light posts in front of his building, and it was not long until a competing merchant followed the lead and installed similar posts, which was soon followed by other merchants, who

inquired as to the cost of similar equipment. The number of these inquiries convinced us that the iron which we had placed in the fire was at last hot enough to strike, so we attended a meeting of the Association of Retail Merchants with a complete lay-out and costs of an extensive system of ornamental lighting, we suggested to them the advantage which their association had as a body organized to further their own interests, to get behind the proposition and improve the retail district in a way that would



The New Peoria Post.

reflect great credit upon the association, and at the same time bring more of the general public more often into the shopping district, a result that could be accomplished in no other way at such small cost to each merchant. We were never pessimistic, but the outburst of such enthusiasm as was shown at that meeting was hardly expected. The merchants on the street selected as the future Bright Way were not slow to become organized into committees to handle the work necessary to accomplish the matter, such as securing a resolution from the City Council providing maintenance, deciding upon the style, number, the location of posts, and securing signatures to frontage contracts. Judging from the time it took to do all of these things, there is not an easy job mentioned in the above list, and the various committee men soon found themselves reporting nothing but progress and doing little else than reporting, and even the formality of rendering a report was soon neglected.

There was no need for haste on any part of the plans until the frontage had been signed up, and many of the frontage signatures were mighty hard to obtain. It was arranged that the work of securing frontage signatures should be handled by a committee of three men on each side of the street in each block, and in this way most of the signatures easy to obtain were secured, but the conditions were the same as in any other city—unsettled estates, long leases, with the tenant or the owner unwilling to improve the property beyond absolute necessity—owners living or traveling out of touch with the situation and not within reach of personal argument. All of these conditions delayed matters to such an extent that most of the committee men lost interest and practically gave up the scheme as impossible, and indeed it seemed almost so to us, but a few enthusiasts—you will find them in every community—never gave up hope though a year's effort seemed to have produced absolutely nothing.

During all of this time we, for the company, remained very much in the background, but personally kept in touch with the situation and gave encouragement wherever we could. This was the condition of things when one day we were informed that a new pavement and new curbing that had been delayed for some time, were to be placed on the street and that work was to start within two weeks. It was discouraging news, for the conduit must be laid ahead of the new pavement or the entire lighting scheme would be blocked for years, and we realized that in less than two weeks we

must accomplish more than had been done within the previous fifty weeks. At this juncture we got in the game openly and rounded up the few real live ones among the former committee men, and with them made personal appeal to the anti-improvement property holders and merchants.

The same energy, if so applied, would have sold all the land in the Sahara Desert, and the net result was that we had over ninety per cent of the total frontage signed, sealed and delivered in time for us to have the material and labor on hand and put in the conduit as the pavement was going in. But we were not yet assured that the system would be installed complete in every block, as the ten per cent not signed was made up of frontages here and there all down the street, and these signatures were the hardest to obtain. We were at the point, however, where we *had* to get them, and every now and then our efforts were rewarded, until by the time the posts arrived the only unsigned space was in one side of each of two blocks. We were determined not to set posts in any block not fully signed up and soon had the posts erected in all of the other sections; the direct result of this was that the attention and efforts of the signers in the anti-blocks were directed to the non-signers, the necessary signatures were soon received, and when current was first supplied it was turned into a system that was as complete as that system is today.

Without any previous announcement, or any formality whatsoever, the first illumination was provided on a Saturday night, and before nine o'clock that evening the entire populace seemed to know of it, for the street was crowded and the city seemed wider awake than ever before. Their comment was not only favorable but flattering, and the general opinion of the townspeople and frequent visitors is that no other one thing has added so much to the city's appearance. One thing we are sure of, and that is that the proposition has justified itself to the merchants who made it possible, as their street is really crowded every evening, whereas other business streets are comparatively deserted. In self-defence the merchants on two other streets have in a very short time and in a similar way, financed similar lighting propositions which will soon be installed, and merchants on other streets have all but completed their arrangements for the same sort of system. We now have installed, or being installed, a total of 239 ornamental lighting posts, which includes 74 one-light posts just completed ready for current, on a residence street. In addition to this, propositions now being considered total 102 five-light posts.

The Peoria Installation at Night

If the merchants in your city are backward in taking up the ornamental lighting proposition, send them over here to talk with the Peoria merchants.

No Chicago Show Next Year

Chicago will have no electrical show in 1912, according to a decision of the Electrical Trades Exposition Company, of that city, at a recent meeting of its board of directors. While this will no doubt be a disappointment to many it is planned to have the 1913 show surpass all previous efforts in its interest to the public.

The Virtue in Blowing Your Horn

How the Postal-Telegraph Does It, and a Few Things It Suggests

By Earl E. Whitehorne

Not long ago, I received a telegram, sent from Cleveland, Ohio. It seemed an ordinary sort of a telegram, and as far as I knew, arrived on schedule time, so I thought no more about it. About three days later, however, there came a communication from the New York manager of the Postal Telegraph-Cable Company, which proved both interesting and instructive. Here is a copy of it:

POSTAL TELEGRAPH-CABLE COMPANY.
Manager's Office.

October 14, 1911

SELLING ELECTRICITY,
17 Madison Ave., N. Y.

Dear Sirs:—

As an illustration of what we are daily accomplishing, by means of our SPECIAL RUSH SERVICE, I beg to advise you that the telegram checked, 9 paid, dated Cleveland, Ohio, October 10, 1911, addressed SELLING ELECTRICITY, 17 Madison Ave., N. Y., and signed J. B. Willard, which was filed with us in Cleveland, at 2.53 P. M., was delivered at 3.14 P. M., showing an elapsed time in our hands of only 21 minutes.

Trusting that our success in establishing and consistently maintaining the FASTEST TELEGRAPH SERVICE IN THE WORLD will enable us to retain your valued patronage, I am

Respectfully yours,
E. B. Stanley, *Manager.*

It was a form letter of the most glaring kind, printed with spaces left for names and dates, which were written in by hand, but I read it with the greatest admiration:—not for the fast-fingered operator who "sent" the message, not for the messenger boy who hustled around the corner, and not for the New York manager who told me about it, but for the man who set that idea to work. If the information had been written on the bottom of the telegram when I received it, it would probably have made no impression, though it were done in red ink. My interest would have been centered on the message itself, my mind would be on the business with Willard, and the fact that it was only 21 minutes since the despatch was filed in Cleveland, would mean little more than the usual unnoticed hieroglyphics in the little squares at the head of all telegrams. But when a separate message comes in three days later, saying, "Here's what we're doing for you!" that *whole communication* was devoted to giving me an interesting bit of information. "Twenty-one minutes from Cleveland to me!" I say, "Whew! That's pretty quick service!" and the trick is turned.

It isn't what you tell a man; it's the way you tell it; it's the impression you make on his voluntary, thoughtful attention that brings profitable publicity. Every telegram you receive bears all this information, if we will consult the figures at the top and your watch. But how often do we do it? It isn't the telegram we are interested in, it's the message. Yet, the speed with which that message has come from the distant city has an element of "human interest" that appeals to every one of us. It's wonderful, when you come to think of it, even as a hundred other things, just "part of the day's work" to the central station man, would be wonderful in the eyes of the public, did they but notice them. There are a hundred ways to take advantage of such publicity, just as effective as in the Postal Telegraph letter.

An interesting example of taking advantage of an opportunity to develop the news idea in advertising the central station was shown recently in Louisville, Ky. The Commercial Club of that city was holding its annual meeting at the Galt House, and at 9:05 o'clock, while President Brinton B. Davis was making his annual report, the lights in the big dining hall, where the meeting was held, after growing dim, went entirely out. Everyone present thought that the meet-

ing would have to be adjourned, but a moment later the lights came on again, brighter than before. Most of the crowd had little idea of what had occurred, but R. E. Hughes, President of the Kentucky Electric Company, who was present, knew that the engineer of the Galt House had thrown on the switch and connected with the auxiliary service of the Kentucky Electric Company.

Being a former newspaper man, Mr. Hughes appreciated the possibilities of the situation from an advertising standpoint, and as soon as the meeting adjourned he composed an advertisement describing what had occurred and dwelling on the efficiency of central station service as compared with that of an isolated plant. This advertisement appeared in all the local papers the following morning, and was the cause of numerous inquiries being received by the company from owners of private plants, who subsequently ordered the auxiliary service.

Again, in Minneapolis, when the big fire destroyed the main city substation, throwing hundreds of homes into darkness, the Minneapolis General Electric Company started its work of repairing and cutting in from other stations while the flames were still raging, and through the papers kept the public fully informed as to just what progress was being made in the work of reconstruction. As a consequence, instead of being disgruntled at temporarily having to do without lights, the people were highly pleased with the efficient manner in which the company was working for their interests in repairing the damage done by the fire. A somewhat similar fire in Philadelphia was turned to account in the same profitable way. The interest of the entire city was aroused over the disastrous consequences of the fire, and the almost superhuman efforts which were being exerted to restore the service and prevent inconvenience to the public.

Of course, such opportunities (?) for "human interest" publicity are happily of rare occurrence, but it is not necessary to wait for anything so colossal. Witness the letter from the Postal Telegraph Company. People are interested in little things, as well as big.

The story of an accident and how its influences are overcome, always has a spectacular element, which makes "good reading." The Louisville incident is a fair example of the opportunities for news. A while ago, in Montpelier, Vt., a sign blew down and broke a store window. Men from the Consolidated Lighting Company were on hand within fifteen minutes, and a carpenter was sent immediately to board up the window. A painter was sent down behind the carpenter to paint a sign on the window boards, for the benefit of the merchant, and the treasurer followed and paid cash for the plate glass. Within the hour, the sign was back and burning, and only the people who passed within the first few minutes realized what it was all about. Here was an opportunity for some very harmful newspaper publicity, for it is a bad thing to have a sign fall, but the company had made itself so conspicuous by the quick and generous service rendered that the press notices were eloquent testimonials to the energy and fairness of the company.

Every week brings opportunities to every central station to make such an impression on certain customers. Suppose the consumer demands that his meter be tested; as soon as it is taken out write a letter to the customer, and send him a little booklet, explaining plainly and in interesting language, how the meter works, how it is tested, and why its accuracy or inaccuracy can be absolutely proved by the scientific instruments employed. Make him feel that all this care and pains is being exerted in his own case, but tell him, while he is interested in the subject, tell him while he is expecting to be proved right. The same story, told at the time you notify him that his meter tests "O. K." and that he must have been mistaken in his recollection of the amount of light used,

will have no more effect than the figures at the top of that telegram had on me. His mind will be on his own affair then.

It is in the little situations of the "ordinary day's work" that the best chances for this practical "horn blowing" often occur. A new house is wired, for instance, and a new consumer is ready to begin his business relations with the central station. As usual, he wants his light quick, because there is to be some social function on Saturday night. He makes a courteous but eager appeal for a prompt connection, and you upset a little routine and get the meter in before sundown next day. He is pleased, of course, and he may mention it, but ten to one he thinks that it is regular routine, the simplest thing in the world, and that you have made no especial effort for his comfort. Drop him a letter signed by the manager, and tell him that you are glad it was done in time, tell him how you rushed it through, and let him know that it usually requires about four days to make the connection, and why. That letter will start you off firm friends. It will make a big impression on him, and he'll talk about it, which is the most profitable kind of advertising.

The Narragansett Electric Lighting Company gets much valuable advertising at this time, by sending a return post card to each prospective consumer who signs a contract. The card reads:—

Page 1.

PLEASE *READ THIS* NOW!

It May Save You Considerable Disappointment and Trouble.

When you sign an application or agreement for either electric light or power, asking the Narragansett Electric Lighting Company to connect you for service, we are anxious to respond at the earliest possible moment. We are naturally eager that the sale of current should begin at once, and we have every desire to give prompt attention to your request.

But there are sometimes delays which we can not prevent. VERY OFTEN YOU CAN.

If you do not get the light or the power and do not understand why, please fill out the attached mailing card, put a one cent stamp on it and mail it to our Sales Department. If more convenient, telephone us; call "Union 741." We will be glad to investigate and report to you at once.

We have listed some of these possible delays on the other side of this card.

Page 2.

POSSIBLE REASONS FOR THE DELAY

As a protection against possible dangers from unskillful or incomplete electric wiring, in every installation, both the wiring and the fixtures must be inspected and passed before we are permitted to turn on the current.

We are not allowed to turn on electricity in the City of Providence and towns of East Providence, North Providence, Johnston and the City of Cranston until we have received a certificate from the Insurance Association of Providence, covering both wiring and fixtures. In the territory not included in these towns, both the wiring and fixtures must be passed by our own inspectors before the current can be turned on.

The wiring and fixture contractors who did the work must send an application to the proper inspector in every case, before the inspection is made. This is sometimes overlooked or delayed and we are forced to wait. *It is to your interest, therefore, to make sure that the contractor notifies the inspector promptly,* for in the suburban districts where the distances are so great, some delay is often unavoidable before the inspector arrives.

Our income does not begin until the current is turned on, so we are quite as anxious as you to expedite matters.

Narragansett Electric Lighting Co.,
Providence, R. I.

A well-worded return card was attached.

Another source of trouble, which may be turned to profitable publicity, is in cases where the meter reader calls and is unable to get in. Very often he leaves a slip under the door, but the man who checks and pays the bills seldom hears of it. Write a personal letter from the office, stating that the meter reader had called, but found the house closed, and that the bill for current would, therefore, have to be estimated on the basis of the average past consumption. Explain, however, that, should you unwittingly charge for more current than had been used, it would not have been registered on the meter, and, consequently, the following month's bill would be just that much less. The intent of this letter can not be doubted or misunderstood,

but if an estimated bill comes in, showing considerably more than the meter is found to indicate when checked by the consumer, there is danger.

These opportunities take a thousand forms, but they all reduce to one of two things: either "blowing your own horn," or calling the public attention to the fact that, without electric service, there is no horn to blow. The great weakness of us all is our unfounded supposition that the public is not interested in our affairs. The central station man feels that these matters are just details in his own business, and of no especial import. He should consider this fact: as a man *he*, personally, is interested in everything that is going on around him, no matter whose business it concerns. So is the rest of the world.

And this is quite as true, inversely. If you, a central station man, in your own home, are overcharged, or treated with apparent injustice or discourtesy, by the gas company, water company, telephone company, or the tax assessor, you are no less quick to ire than the man who knows nothing of the workings of a public utility. We are all built on the human plan and things that are obvious details to us may be confusing irritations to the other fellow, because it isn't his business. For instance, recently the Bell Telephone Company put up a new central office building in a small New Jersey town. A very courteous letter went out to all subscribers, advising them that the new office was open, telling them that the new switchboard was the same type as that in use in New York City, only, of course, smaller; and suggesting that perhaps the subscribers (who were on a party line) might now be glad to contract for a private wire. It was a very friendly letter, but it said too much, apparently, for several men I know thought it was a hold-up. They said, "So we've got to help pay for the new building, have we? They want to make us pay $5.00 for a private line, instead of $2.00 for a party wire!" I am sure most people understood, but some, reading hastily, noted only the remarks about the new building being completed and the information about the cost of a private line. Two separate letters would have avoided this, and the new building announcement would have given much more pleasure.

Play closer to the newspapers, not in "wire pulling," or any other kind of politics, but in furnishing news of everything that goes on—big contracts, big gains in monthly sales, record efficiency in the boiler room, or the anniversary of the plant opening. The fact that the generators are turning, turning, day and night, year after year, always watched and pampered, is full of human interest; yet, how often do we read anything about it in the paper?

The public is interested in every worthy thing you do. Watch for ways to tell them about it!

Tragic Death of B. G. McNabb

The many friends of Mr. B. G. McNabb, manager of the New Business department of the Montreal Light, Heat and Power Company, were deeply shocked to learn of his tragic death on October 21st. Mr. McNabb, with one friend and four guides, was duck hunting on Lake St. Peter, and while returning to Montreal on Saturday afternoon, he was killed by the accidental discharge of his own gun. The party were in canoes, crossing the lake, in tow of a motor boat, when, at the sudden appearance of a gull, Mr. McNabb reached for his shotgun, which was in the other end of the canoe, drawing it towards him, muzzle first. The full charge entered his body and he was instantly killed.

The news of Mr. McNabb's death, unfortunately was received just too late for mention in the last issue of *Selling Electricity*; the details, however, are probably still unknown to many of his former friends. Mr. McNabb leaves a wife and a four-year-old son.

Illinois State Electrical Convention Held at Rockford

The Illinois State Electrical Association held its annual convention in Rockford, October 24, 25, and 26, and from the standpoint of both attendance and interest it was the most successful convention in the history of the association, an unusually large number of central station men being present.

The program was one of great interest, the papers being well prepared by men who were fully qualified to deal with the especial subject in hand. With one exception every paper on the program was of a commercial nature, dealing with some important feature of new business. A feature of the program was two symposiums on the subjects: "How to Get Power Business," and "The Sale of Electricity to Farmers." In connection with the first subject, papers were read by Messrs. John G. Learned, of the North Shore Electric Company, T. P. Pinckard, of the Peoria Gas & Electric Company, and A. C. Martin, of the Rockford Electric Company.

These papers were followed by much discussion, during which many important items of interest to the central station were taken up. The second symposium was taken part in by Messrs. O. E. Brown, R. H. Abbott, H. W. Bullock, and John G. Learned. These papers were also discussed at length, many interesting points regarding rural service being brought out.

Papers on "Uniform Accounting" were presented by Mr. T. W. Gregory, of the East St. Louis Light & Power Company, and Mr. H. E. Addenbrooke, of the Commonwealth Edison Company, while other interesting papers were: "Recent Progress in Electrical Engineering," by Dr. Ernst Berg, of the University of Illinois; "Modern Street Lighting Systems," by Mr. Warren Partridge, of Springfield; "The Wire-Type Tungsten Lamp," by A. J. Cole; and a paper by Charles P. Brown, of Henry L. Doherty & Company, on "Public Policy," read in the absence of the author, by F. M. Sinsabaugh.

The convention was presided over by President W. G. Austin, and the social features included a smoker, with vaudeville, and a banquet at the Nelson House, given by the Rockford Electric Company. The officers elected for the ensuing year are as follows:

President, H. A. Foster, Fairbury.

First Vice-president, J. J. Frey, Hillsboro.

Second Vice-president, F. H. Golding, Rockford.

Third Vice-president, F. MacDonald, Lincoln.

Fourth Vice-president, C. W. King.

Treasurer, F. W. Reimers, Rock Island.

Secretary, H. E. Chubbuck, Peoria.

Assistant Secretary, C. A. Willoughby, Peoria.

In connection with the convention an electrical show was held in the Rockford Armory, where a number of electrical and other exhibits of interest to central station men were displayed. It was arranged to hold the sessions of the convention in the basement of the armory, but at the opening session it was found that the acoustics of the room were inefficient, and the remaining sessions were held in the lecture room of the Unity Church.

A New Use For the Electric Toaster

Still another use for electricity has been discovered, this time through the old principle that "necessity is the mother of invention." The Edison Electric Illuminating Company of Brooklyn recently received a request from a millinery establishment for an appliance to be used in curling feathers.

No such appliance was in existence, but the Company's experts got together and after some experiments with an electric toaster, solved the problem. The toaster was inclosed in a wire screen to prevent injury to the plumes by coming in contact with the coils, and the results obtained were so satisfactory that several toasters so equipped are now in use.

Motor Service in a Tile Mill

The Description of a Recent Installation in Dundee, Ill., on the Lines of the North Shore Electric Co.

By Guy R. Grove
Power Salesman Kankakee Gas and Electric Co., Kankakee, Ill.

In the building up of a motor load in small villages and rural communities where steam and gasoline plants are and have been in use for years, a power solicitor has to pursue a very different course than he would in a city where motor service has been established for years. In the city, while motor service may not offer a decided saving in money, there are points in its favor, such as freedom from smoke, no unnecessary noises, cleanliness, economy of space, and rates as low as it is possible to make them. The prospective customer knows all of these favorable points, and it all assists in securing his business. However, to the prospective customer in the country these arguments do not appeal, and the only practical inducement is the money he can save by going over to motor service. He is of the "show me" class, and it requires tact and intelligent work to secure his business.

A fair example of how these conditions are met is the tile factory of the D. H. Hoeger Estate, at Dundee, Ill., a small village near Elgin. Here the motors installed are only used at present to convey the raw material

Path of the Long Conveyor.

from the pits to the mill and for the first operation of mixing and crushing the clay, that being the only immediate opportunity for effecting actual money-saving over previous methods.

This factory has been operated for years and, during the winter of 1910-1911, was entirely rebuilt. Their former system for conveying the clay from the pit was by small two-wheeled carts, each drawn by a single horse. In rebuilding the plant, its capacity was increased to almost double, which raised the requirements from 40 to 60 tons of clay per day for its

The Bucket Conveyor.

operation. The old cart wagons were discarded for a cheaper and more up-to-date means of conveyance—a 30-in. belt conveyor. The old steam equipment, consisting of a 40 hp. boiler and a 30-hp. simple engine, was found to leave only sufficient power to do half the work in the new plant. This meant either a new steam equipment of engine and boilers, or motor service. The local representative of the North Shore Electric Company, which company operates in Dundee, signed them up for 22 1-2 hp. to take care of the conveyor and a "mixer" or "plug mill."

In this plant, the material used in

making the tile consists of an equal amount of red and blue clay. The red clay (so called because it turns red after burning) is ordinary soil, with but a small percentage of clay. The blue clay is almost pure and is mixed with the red clay by a plug mill. A plug mill consists of two parallel rotating cylinders, which have auger-shaped blades, that mesh, crushing and mixing the clay. The two kinds of clay are hauled from the pit on small dump cars and after being dumped at the mouth of the chute leading to the plug mill, are fed by hand in equal amounts to the mill.

This mill is run by a 10-hp., 220-volt 3-phase Westinghouse motor, of the squirrel cage type, equipped with an auto starter. The entire equipment, consisting of the motor, starter, and plug mill, is sheltered from the weather by a suitable frame building, located at the mouth of the pit. The mill is belt-driven and so set that it feeds a steady supply of clay to the 30-inch belt conveyor, which carries it to the mill located 800 feet away. The first picture shows a section of the frame work, which supports the conveyor, this structure being built 25 feet high, in order to clear two public roads, which are between the mouth of the pit and the mill.

This conveyor is made of canvas, and is supported by rollers placed every 6 feet, the belt being protected by a wooden cover for keeping out the rain and snow. At each end of the conveyor the belt runs over a pulley 3 feet in diameter, the end pulley located in the factory, being driven by a 7 1-2-hp., 220-volt, 3-phase, Westinghouse motor, equipped with an auto starter. This motor is too small, however, as it is slightly overloaded most of the time. Picture 2 shows this motor mounted on a frame work on the first floor of the mill. It is belted to the conveyor by reducing pulleys.

From the end of this conveyor the clay is either dropped on a small 14-inch belt conveyor, which carries it a distance of 75 feet, to the winter storage pit, or it is dropped to the basement, where it runs through another plug mill and is then carried to the final mixer by an almost vertical bucket conveyor, shown in picture 3. This conveyor and also the small belt conveyor are driven by another 7 1-2-hp. 3-phase motor, located on the second floor of the mill.

In connecting up this mill, the Company had to bring the 2,200-volt primaries a distance of about 800 feet, where a bank of 3 10 kw. transformers were installed for reducing the pressure to the 220 volts required for the motors. The motors are each controlled by an auto starter, placed near at hand, each motor being on a separate circuit run from the service box.

The rates charged by the North Shore Electric Company are based on the 10-5-3 maximum demand system. The maximum in this case is figured as 75 per cent of the connected load in kw. The first 30 hours' use of the maximum is billed at 10 cents, next 30 hours' use at 5 cents, and the remaining kwh. used during the month at 3 cents. This rate is subject to a discount of about 15 per cent, if the monthly bill exceeds $50.00, and is paid before the 10th of the month.

The average monthly consumption for this plant for the last six months, has been about 2,200 kwh., or an approximate monthly bill of $100, which represents a great saving in the cost of conveying the clay to the mill. This is easily proved by the fact that by horse and cart it costs approximately 25 cents per ton to haul the clay from the mouth of the pit to the mill. Figuring on 50 tons per day, for 26 days, and a net bill of $100 for power, this cost would be brought down to about 10 cents per ton, allowing a reasonable amount for depreciation and incidentals.

These two separate power systems also furnish a more flexible method of operation in that either the conveyors or steam equipment can be run independent of each other, thus insuring that the motors or the engine will always be loaded to full capacity.

The Electric Vehicle in Smaller Cities*

Being the Story of Electric Vehicle Development in Rockford, Ill.

By F. H. Golding
General Manager, Rockford Electric Co., Rockford, Ill.

The introduction of electric vehicles in smaller cities has not progressed to a marked degree, and the lack of progress can undoubtedly be attributed to three causes:

1. The central station does not appreciate the value of vehicle-charging as a source of revenue.

2. The central station operator feels that because of some peculiar local conditions, such as grades, paving, or character of community, the introduction of electrics into his city cannot be successfully accomplished.

F. H. Golding

3. A desultory, hit-or-miss campaign has resulted in a few vehicles, but failure to properly instruct vehicle purchasers, and to oversee operation, has caused the vehicle to fail to give satisfaction to the user.

Probably the best argument with which to meet the foregoing reasons for non-development is a statement of development of the electric-vehicle business in Rockford, Ill., which presents a very good example of what can be accomplished in a medium-sized city. The census of 1910 gave Rockford a population of 45,401, and, as a result of a consistent campaign and careful supervision of vehicles in use, it has now more than 185 electric pleasure vehicles in use, with some 80 private charging equipments for electric machines.

The city is located on the rolling prairie of Northern Illinois, and is consequently only fairly level, and is fairly well paved, but the owners of electrics do not hesitate to drive out over hilly country roads, and a trip of 35 or 40 miles over average country roads is not infrequently taken. One might say that the hills in Rockford are not as great as those in some other city, but when one sees electric vehicles successfully climbing the hilly streets of Scranton, Pa., and considers that an electric made an excellent showing in the famous Algonquin hill climb, some two or three years ago, it must be conceded that the city whose grades operate against the electric vehicle must be a hilly city indeed.

The success of electrically-driven vehicles in Rockford is in a large measure due to the fact that the electric company, from the beginning, employed a capable battery and motor man for the purpose of instructing owners in the care and operation of batteries and vehicles. The importance of "gasing" the batteries at frequent intervals, keeping the water level up and checking charging by gravity tests rather than by volt-ampere input, was impressed upon owners, and, as a result, unusual battery life is attained, same ranging from two to three years.

An interesting feature of Rockford's vehicle development is the unique private garages, many of which are built in basements of houses, under porches, etc. About 140 electrics are

*Abstract of a paper read before the Electric Vehicle Association of America, second annual convention.

housed in these private garages, and 95 or 100 are regularly charged with private equipment. The seeming inconsistency between this figure and the number of private charging equipments noted in a preceding paragraph is explained by the fact that quite a few owners have two electrics and some even three. The extreme simplicity of operation and the cleanliness of the electric car make it especially adapted to the use of ladies as well as to that of business and professional men where the frequent stops make the cranking of a gasoline car a great deal of trouble.

There has been as yet no commercial truck business developed, and the chief obstacle appears to be the first cost of the electric truck as compared with gasoline. This is particularly true of the lighter vehicles for groceries, etc., as a gasoline machine of this character can be purchased for less than $1,000.

Up to this time the electrics have not competed with gasoline cars to any great extent, as each type of car has had its own particular field, and, as a matter of fact, many Rockford people have both types of car. The development of higher-capacity batteries, making possible a run of upwards of 100 miles on a single charge, is opening up another phase of the situation, and the writer ventures to express the belief that within a few years the electric will be a formidable competitor of the gas car.

The central station at Rockford makes an "off-peak" charging rate of six cents net per kilowatt, with a minimum charge of one dollar per month, the "off-peak" period covering from 4 p. m. to 9 p. m., from November to February, inclusive. For public garages, of which one handles electrics exclusively and two handle both electric and gasoline cars, an "off-peak" rate of four cents net is made, the contract containing the same "off-peak" stipulation that contracts with private individuals contain, and a further proviso fixing the price at which the garage must resell charging current to car owners at six cents. It will be apparent that the latter clause is intended to insure the vehicle owner that the cost of operating his car will be no greater if he chooses to have it cared for in a public garage than if he installs his own charging equipment or charges at the company's depot.

The enforcement of an "off-peak" charging rule requires little attention, as the electric automobile is naturally used in the afternoon and the evening, so that the very nature of the vehicle makes it essentially an "off-peak" proposition. In Rockford the electric company impresses the vehicle owner with the fact that slow charging, at a low ampere rate, is preferable to spasmodic charging at a high ampere rate, and this has tended to encourage all-night charging, so that fully 75 per cent of it is done between 9 and 10 p. m. and morning.

The annual revenue from vehicle charging is about $11,100, the revenue from private garages averaging $60 per car per year and that from public garages $71 per car per year. The better showing of public garages is due to the fact that a number of the cars kept in private garages are frequently charged at public stations, and to current used while batteries are being repaired.

The average annual cost of operating an electric in Rockford is estimated as follows:

Current for charging	$ 60
Battery maintenance	30
Tire maintenance	40
Vehicle maintenance	50
Total	$180

The vehicle maintenance cost covers repainting and overhauling the machine each year.

Carnival Illumination the Year Round At Colorado Springs

Colorado Springs held a carnival not long ago, and in honor of this event the city was elaborately decorated with electric lights. The current for this illumination was furnished free of charge by the Colorado Springs Light,

Heat & Power Company, and the lights were kept burning, not only during the carnival, but for some time thereafter. Then, one night, General Manager George B. Tripp, of the Company, ordered all the carnival lights turned out, in order to show the people what the business district would look like without them.

The contrast was so great that it didn't take the citizens long to make up their minds that they didn't want to go back to the old lighting, so the members of the Chamber of Commerce are co-operating with the city in an effort to purchase a complete outfit of electrical decorations similar to those used during the carnival, and use them for permanent illumination of the main streets of the city.

Manager Tripp, by a skillfully arranged contrast, brought the people to a realization of just what the added illumination had come to mean to them, and by arousing their civic pride succeeded in effecting a permanent betterment of the city's street lighting, and, incidentally, added materially to the revenue of his company.

Some Good Selling Ideas from Kansas

From the first to the tenth of each month, when customers call to pay their bills, the Leavenworth (Kan.) Light, Heat & Power Company makes it a point always to have something of interest on display in the office. The latest "stunt" of this nature was a small "House Electric," consisting of a dining room and kitchen equipped with furniture loaned by the leading merchants of the city, and furnished with various kinds of household electrical appliances.

A feature of the display in the kitchen was an electric range in which a competent demonstrator conducted a series of experiments in the new paper bag cooking. By special invitation the members of the domestic science class of the local High School, together with their teachers, came down every afternoon and saw the range in actual operation. The company reports very good success with the paper bag cooking, a feature of which is the delicious flavor that can be obtained in no other way, and also the elimination of washing cooking utensils.

On the 27th of September an ornamental street lighting installation, extending over six blocks in the principal business street in the city, was formally put into commission. The installation consists of 152 60-watt lamps, allowing 16 to the block, on each side of the street, or one to every lot, and burning from dusk till midnight.

A local celebration was held the first night the installation was turned on, and speeches were made by the president of the "Ad Club," and others. The local band donated their services, and this, together with the publicity given by the newspapers, brought about 5,000 people out to witness the inauguration of the system.

Another idea that has recently been carried out with much success by the Leavenworth company is the installation of indirect lighting units in local moving picture theaters. By means of these units it is possible to have the theaters well lighted, and yet not interfere with the showing of the pictures. This is because the rays of light do not strike the curtain upon which the pictures are thrown, while at the same time there is no glare in the eyes of the audience. This is an idea which might be made use of by central stations in every town in the country where there is such a theater, one of the principal talking points to the manager being that lighting up the house eliminated all possibility of parents objecting to their children attending picture shows on account of the darkness.

Each of these innovations received ample space in the local press and a wide public interest was aroused.

Big Power Business for Brooklyn

The sales department of the Edison Electric Illuminating Company, of Brooklyn, during the 60 days ending November 1, 1911, closed the greatest

amount of business ever written in a similar period in the history of the company. The total kilowatt hour consumption of the new contracts alone will amount to over ten million kilowatt hours per year, added to the present output of the Brooklyn Edison Company's system.

The most interesting of the new contracts is that which was recently closed with the Bush Terminal Company. This company operates on the Brooklyn water front an enormous system of model warehouses, offering a unique service in that they provide the complete warehouse and shipping facilities for manufacturers and wholesalers of all kinds. In some cases the factory itself is moved to the Bush Terminal, where the facilities for handling freight, and the freedom from heavy insurance risks are sufficient to make this centralization efficient and economical. The contract was closed for a long period, covering not only lighting and power needs of the loft buildings, but also the charging current for electric truck cranes, which are used throughout the Bush yards. Approximately 3,500 to 4,000 hp. will be the connected load, with an estimated annual revenue close to $100,000.

This contract is particularly notable, since it would appear that in a plant of this character, with such a large and diversified load, the isolated plant would have its best opportunity. But the inexhaustible and ever dependable service offered by the modern central station was a factor too valuable to be sacrificed.

DOLLAR IDEAS

For Christmas Delivery

L. D. GIBBS

Supt. of Advertising Edison Electric Illuminating Company, Boston, Mass.

In order to encourage the purchase of goods, previous to the Christmas time for delivery on that day or the day preceding, we are giving to each customer, who buys for future delivery, a card, indicating the name of the purchaser, the name and address of the party to whom the article is to be delivered, and the date upon which delivery is to be made. This card is signed by the salesman taking the order.

The card reads:—

FOR CHRISTMAS DELIVERY

This is to certify that M.....has, this day, purchased the following electric appliances, to be delivered to M.....at .....Street,.....on, or before, the day of.....1911.

.....

.....

.....

THE EDISON ELECTRIC ILLUMINATING CO. OF BOSTON,
Electric Appliance Exchange,

By.....

Boston,.....1911. *Salesman*

Novel Features in Milwaukee Wiring Campaign

The Milwaukee Electric Railway & Light Company is carrying on a campaign for wiring old houses which has some rather novel features. The company offers to do the wiring for the consumer or to allow the work to be done by the local contractors, but in either case the company collects the first payment on the wiring and fixtures when the contract is signed, the balance being paid in 11 equal monthly installments, collected with the current bills. If the balance is paid in full when the first of these monthly bills is presented a discount of 5 per cent is allowed. If the contractor does the work he is paid by the company in 12 equal monthly installments, or in one cash payment, if he prefers, in which case there is a discount of 10 per cent.

The company's solicitors are supplied with a booklet in which are set forth the numerous advantages of electric service in the home, together with the company's rates for wiring, cuts of the standard line of fixtures and the prices of various types of incandescent lamps. The company prefers that all wiring be done by local contractors, and the solicitors advise their customers that while the company will do the wiring at the rate given in their booklet, it is generally cheaper to have it done by a wiring contractor who is usually able to make an estimate about 25 per cent lower than that of the company.

This shows the customer that the lighting company is anxious to help him secure his wiring as cheaply as possible, besides which it gives the solicitor the benefit of the contractor's interest in getting the job, and incidentally brings the contractor into closer, more friendly, relations with the central station.

The following schedule of prices is maintained, where the company makes the installation:—

Single flooring—base charge	$4.00
Outlet charge (per outlet)	3.00
Double flooring—base charge	4.00
Outlet charge (per outlet)	4.00
Hardwood flooring—base charge	4.00
Outlet charge (per outlet)	4.00
Prices of switches, etc.	
Push button switches, each	$1.00
Push button 3-way switches, per set of two switches	2.50
Rotary switches, each	1.00
Rotary 3-way switches, per set of two switches	2.50
Snap switches, each	.50
Snap switches, 3-way, per set of two switches	1.50
Bryant flush plate receptacles	1.00
Chapman flush plate receptacles	1.25
Hubbell baseboard receptacles	1.25
Drop cord with key socket	.75
Drop cord with chain pull socket	1.00

The base charges are to cover the expense of getting workmen and material on the premises. All openings for switches, receptacles, drop cords and fixtures are classed as outlets and charged accordingly. The prices given above are for houses of ordinary construction, as those of fireproof or other construction naturally require special estimates.

The company makes service connections on its lines free of charge where the service is overhead. A charge of 50 cents per lineal foot is made for underground service, measurement being made from the curb line to the inside wall of the building.

Electric Lamp-Delivery Wagon in Rochester

Customers of the Rochester Railway & Light Company no longer have to take their old lamps and an identification card down to the company's office, when they require renewals. Now they simply telephone and the lamps are sent out in the company's new lamp-delivery wagon. This wagon is of the regular light electric pleasure-vehicle type, mounted on a Baker chassis and completely inclosed. The body is of mahogany and holds about 800 lamps in standard packages, while on the floor in front of the driver is a box for lamps other than standard.

A girl in the lamp department receives the telephone requests for renewals and the calls are routed for the driver of the wagon, who averages about 45 miles a day on his rounds.

This delivery system has proven so successful that the company is going to install two more wagons of the same type in the near future.

Electric Police-Call System in Peoria

Probably the largest light-signaling police-call system in the world has recently been installed at Peoria, Ill., by the Gamewell Fire Alarm Telegraph Company. Red incandescent lamps are placed on all the police-patrol signal boxes on the streets, and when anyone at police headquarters wishes to communicate with a patrolman on his beat, the lamps on the boxes nearest that locality are switched on. This at once attracts the attention of the patrolman, who hurries to the signal-box instructions by telephone.

By means of this system, a burglary or other disturbance can be reported to the man on the nearest beat directly the news is received at headquarters. This system has attracted considerable attention among the authorities of other cities, several parties having made special trips to Peoria to inspect the installation.

Getting New Business Through the Porch Light

From Los Angeles, Cal., comes an idea that should be of value to all central stations that are carrying on or planning a campaign for increasing power consumption. The Southern California Edison Company of that city is advertising 8 cp. porch lights as a means of protection from prowlers, burglars, and "second-story men."

Photographs of installations are used in the advertisements, under the heading, "A Night Watchman for Sixty Cents a Month," it being explained that at the rate charged by the company at present, an 8 cp. lamp can be burned ten hours a night for a month at a cost of only 60 cents. The company reports excellent returns from these advertisements, as frequently a single light on the porch will lead to a complete installation inside the house.

A Frozen Sign in Milwaukee?

One of the most interesting exhibits at the Manufacturers' Exposition recently held at Milwaukee was that of the Vilter Manufacturing Company, showing a motor-driven ice-making and refrigerating plant in operation. A unique feature in connection with this exhibit was a "refrigerated sign," made up of about 100 feet of half-inch iron tubing forming the words, "Vilter Ice Machine, made in Milwaukee," and arranged on a black background. The piping formed part of the refrigerating exhibit, and as it became frosted on the outside, stood out in strong relief on the dark background, making a unique and effective sign which attracted a great deal of attention during the exposition.

Mr. A. W. Harper has resigned his position with the commercial department of the Penn Central Light and Power Co., of Altoona, Pa., and has accepted an appointment as commercial agent of The Sandusky Gas and Electric Co., Sandusky, Ohio. The Sandusky company will inaugurate an aggressive campaign for new business, and Mr. Harper expects to effect a large increase in revenue before the winter is over.

Henry L. Doherty & Company has recently assumed management of the Hattiesburg (Mississippi) Traction Co., and Mr. C. G. Murdock has been appointed new business manager of the electric lighting department.

Mr. A. W. Schade, formerly connected with the Empire District Electric Company, of Joplin, Mo., has been transferred to the Freemont (Neb.) Gas and Electric Company, where he will hold the position of new business manager.

Mr. Robert W. Rollins, formerly manager of the Hartford (Conn.) Electric Light Company, has resigned that position to accept the place as general manager of the Worcester (Mass.) Electric Light Company.

SELLING ELECTRICITY

ELECTRICAL MERCHANDISE

DECEMBER, 1911

YOURSELF AS AN INVESTMENT

Thirty thousand dollars is a lot of money. Newspapers speak, off-hand, of huge operations involving millions, and we have learned to think easily in six or seven figures, because the business we are in requires large capital. But just the same, thirty thousand dollars is a lot of money. The man with thirty thousand in real cash is a financial power. Get the amount fixed in your mind—thirty thousand dollar bills—fifteen thousand two-dollar bills—six thousand five-spots—three thousand tens—fifteen hundred yellow-backed twenties. Think of it in terms of the actual paper, and it assumes its true value.

Now, any man who is earning $150 a month is worth thirty thousand dollars. He is worth it because he is earning as much as the thirty thousand could earn with safety. Looking at yourself from that angle—as capital invested—you are likely to get a new perspective. Instead of weighing yourself in the scale with Tom, Dick, or Harry, whose salaries and jobs are loosely comparable with your own, you find yourself measured with an inflexible standard.

Again, looking at yourself thus as an investment, some questions occur: Are you "safe"? Would you put thirty thousand dollars on yourself, right now, assured that principal would not depreciate nor interest reduce? Is the collateral ample, and in case of panic or hard times could you continue to realize upon yourself at par? These are mighty pertinent and valuable questions for the young man in business to ask himself occasionally.

Every financial investment requires attention and even Government bonds fluctuate. A really good investment always appreciates. A really wise investor is always increasing his margin of safety by diversity, or by putting his surplus into something of greater stability or convertibility. The same laws should govern the man, with respect to himself as an investment. He should have earning power apart from the immediate job in hand—preferably the power to seize the next job above. He should re-invest his surplus energy and experience, as insurance both for stability in his present work and convertibility into some co-related line of endeavor.

To study yourself as an investment means two things—a truer appreciation of your present value and dispassionate analysis of your future. It is worth while.

AN APPEAL FOR STANDARD CATALOGUE SHEETS

A letter comes in from a very good friend, the sales manager of an Eastern central station—a combination company—appealing to the manufacturers of electrical appliances for a standard catalogue sheet.

"I handle both gas and electricity,"

he writes, "and find it very much easier to sell from a gas catalogue than from an electric, simply because all the goods and data are in one book where gas is concerned, while the electric products are scattered in numberless books and leaflets. As a sample, we have in our office a table upon which we keep the catalogues of all responsible firms handling either gas or electric appliances. There are on this table seven different leaflets extolling the virtues of seven different vacuum cleaners. There are no two of them the same shape, size, or color; the one point of similarity is the subject matter. Take the question of electric automobiles, there are ten different catalogues, handsomely bound and most attractive, but mighty inconvenient to carry around. On the contrary, we have leaflets from 12 different manufacturers of gas stoves. Some of these people have sent us but one leaflet, while others have sent 6 or 7, but every one of them is the same size."

The value of such a general catalogue is apparent to all. If the salesman goes out with the express purpose of selling a percolator, he can easily take along a sample, but in the average day's work he cannot foresee and must be prepared to talk upon any subject in which he may find his prospects interested. He must have full data ready at hand and unless he prepares his own makeshift data book, which requires constant attention if it is to be kept up to date, he must carry with him a mass of miscellaneous manufacturers' catalogues and folders.

How much more businesslike, how much more impressive, how much more efficient as a sales instrument is the standard catalogue of uniform sheets covering the entire range of current consuming appliances! The salesman is equipped at all times to represent every manufacturer of a standard device, yet he is unencumbered and the effect on the customer of this obviously thorough preparedness is important. The salesman who has to paw over a mass of manufacturers' catalogues appears a bit amateurish.

To the efforts of the National Commercial Gas Association is largely due the standard catalogue of gas appliances. Here is an urgent opportunity for the Commercial Section of the National Electric Light Association. The establishment of a similar data book for the electric salesman is a cause worthy of the best efforts of the new organization.

THE IMMEDIATE OPPORTUNITY

The coming Christmas season offers probably the greatest opportunity for the extension of household service that has ever been within the power of the central station. All the world will be eagerly searching for Christmas Gifts, and the accumulated strength of hundreds of pages of national advertising will be a mighty, though perhaps a sub-conscious, influence. There has been a continuous and consistent pressure exerted through the pages of the popular magazines these many months, all sowing the seed. The Christmas shopping weeks will be harvest time.

The manufacturer has invested his tens of thousands of dollars, but it needs the local effort of the central station man to produce the greatest mutual profit. Concentrate on this opportunity and realize the benefit.

Co-operative Education

What the Commercial Section of the N. E. L. A. is Doing to Develop the Market for Both Current and Current-Consuming Appliances

Advertising is part salesmanship and part education. On staples, the ad-man can restrict himself to those arguments which will get the signature on the dotted line, but when he is dealing with a specialty, or with an article of which the public has a vague or mistaken notion, he must become schoolmaster as well as salesman, and his work is thereby more than doubled.

In the advertising of electric service and electrical appliances, this educational work is particularly burdensome. The advertisement that restricts itself to sales arguments is generally barren of results; wherefore, the ad-man, in his eagerness to explain and expound, frequently forgets to include the sales talk at all. In either case the central station management concludes that advertising doesn't pay—that the electrical business "is different"—and such newspaper space as is used, too often is filled with gibberish. This condition has been recognized by the Commercial Section of the National Electric Light Association, and an effective means taken to overcome the central station ad-man's difficulty.

The idea upon which the Commercial Section is working, is that electrical advertising should be divided cleanly—one part devoted strictly to education, and one part entirely to salesmanship. And since the education is best accomplished when the reader has assurance that he is perusing simple truth, and not the specious arguments of a manufacturer intent upon the sale of goods, or of a central station anxious to connect up a customer, this educational work is handled so far as possible from an independent standpoint, and its integrity is practically vouched for by the Association.

The first effort along this line was a booklet, "Data on Electric Signs." This was issued at the last N. E. L. A. Convention, by the Commercial Section's Committee on Electrical Advertising, of which Mr. E. L. Callahan, of the Byllesby interests, was chairman. It was, obviously, a tentative effort, but as such was, and is, about as successful as anything that might be offered. In the preparation of this booklet the leading sign, flasher, and sign-lamp manufacturers co-operated, both in the supplying of data and in contributing funds to meet the printing costs, the latter being necessary at that time because the newly-formed Section was financed on hope. It is notable that in the data appears nothing that is either unfair to any manufacturer or unduly advocative of any manufacturer's individual product. If an absolutely disinterested writer of text-books had undertaken the work, it would not have been less prejudiced.

The idea of the Commercial Section is that this data book should serve as the standard guide on the subject of electric signs:—not only a guide for the central station solicitor or sign salesman, but a guide, also, for the merchant who contemplates the erection of a sign before his store, or the advertiser desiring to erect his firm's announcement on a great white way. The absolute honesty of intent and content is what gives it value. There is nothing "confidential"—nothing which the honest seller of signs might not state openly to any or all of his trade.

Perhaps it was this very honesty which caused certain central stations to hesitate in using the book, as it was intended. They could not understand the policy of laying the cards face-up, and permitting the sign buyer to see that they had not an ace in the hole. Their commercial training had been along the old-school lines; they did not realize that nowadays in business, as

in diplomacy, candor is a profitable virtue.

On the other hand, plenty of the lighting men saw the advantages of having their educational material supplied from a source that was at once competent and independent. Such companies, in distributing the books among prospective sign buyers, said, in effect, "Here are the inside facts about electric signs. This data book was issued by the National Electric Light Association. They have no axes to grind; you can rely absolutely upon the data here given." And the merchant, or advertiser, studying over these data, was able to figure out the proposition for himself; able to check up the salesman's arguments, and, finally, able to buy with knowledge and satisfaction, instead of timidly and with a feeling that he was spending money in an unproven form of advertising.

So the first educational venture of the Commercial Section was a success. The "Data on Electric Signs" has had a wide and profitable circulation, and is today acknowledged and used as the standard data book on the subject. Central stations are calling for the books every day, and every day are reporting the sale of signs which have resulted directly from the intelligent use of this educational advertising.

Before the success of the sign data book had been demonstrated, the Section embarked upon an even larger venture of the same sort. This was "The Electrical Equipment in The Home,"—a book issued co-operatively, by the Commercial Section, the National Electric Lamp Association, and the National Electrical Contractors' Association. In this second venture, the idea was to provide a book which should be a guide, not only to home builders and architects, but to electric light solicitors and electrical contractors, also. It showed the fallacy of wiring residences simply for the most necessary lighting, and showed how, by a little foresight and at but trifling cost, provision could be made for economically expanding the installation to permit all manner of household appliances and additional lights to be used at any future time.

The moneys for this book were provided by the three associations above mentioned, but, before the first edition was off the presses, the Jobbers Association also asked the privilege of joining in the work. As a result, over 35,000 copies have been placed in the hands of architects, builders, central station men, and electrical contractors, and by them are being used as "campaign literature" in educating home builders to a better appreciation of the value and necessity of complete electric service.

These books are, as has been said, tentative in form and text. The Commercial Section is feeling its way because it is compelled both to develop the demand for this educational literature, as well as to supply it. As the industry comes to appreciate that booklets of this description, containing absolutely trustworthy data and bearing the name of disinterested publishers, are the best sort of popular education, this department of the Section's work will be developed further. Even now there are in process several more books of similar purpose, and covering other branches of central station service, but even these are not a "drop in the bucket" when the scope and value of the idea is understood.

Indianapolis Garage Operated by Central Station Men

The Merchants' Auto Company, of Indianapolis, Ind., is opening a garage at 320 North Delaware Street, in that city, which will soon have accommodations for 200 machines. A feature of this garage is that it will be controlled by central station interests.

The new garage will make a specialty of caring for battery-driven vehicles, storing and charging both pleasure cars and commercial trucks. This establishment will fill a long-felt want in Indianapolis, for there are a large number of electric vehicles already in use with insufficient facilities for garaging.

ELECTRICAL MERCHANDISE

A Department of Suggestions for Men Who Sell Current Consuming Appliances and Accessories

AN enormous popular market for electric appliances and fittings stands awaiting the contractors, the supply dealers and the central stations who will study and utilize the experience of the successful merchants in other fields. It is the aim of this department to suggest and apply such proven methods for the upbuilding of this retail business in electrical merchandise—not by indefinite theory or destructive criticism but by helpful, practical, constructive ideas for displaying and selling in the Electric Store. Contributions and communications of interest to this department will be gladly received. Address, Manager of Merchandise Department, SELLING ELECTRICITY, No. 17 Madison Avenue, New York City, N. Y. Telephone: Madison Square 7629

Somebody is Asleep—Why?

300 *Retail Merchants Want to Buy Over* $175,000 *Worth of Electrical Merchandise But Nobody Seems to Want the Business*

By Frank B. Rae, Jr.

A couple of weeks ago the editors of a leading trade paper for dry goods merchants sent a circular letter to some 300 subscribers, asking them what kind of store equipment they were interested in. The replies received are a pretty good index of the mental attitude of storekeepers everywhere, for the list was picked at random, and embraced large merchants and small, in cities and villages, located east and west and south. Here are some of the items of electrical merchandise which these storekeepers said they were interested in:—

122 were interested in automobile delivery wagons.

119 wanted facts and figures about lighting equipment.

86 asked for data on electric signs.

85 were ready to talk vacuum cleaning machines.

68 inquired about elevators and escalators.

A conservative estimate of the amount of business involved would put the figure at $175,000 at least.

And these merchants were sending these inquiries for electrical equipment to the editor of a dry goods magazine!

They weren't asking the electric light man or the local electrical dealer.

Why?

The answer is obvious to anyone who looks the facts in the face. *Because the electric people didn't go after the business.*

Merchants expect to be solicited for business. Go into any moderate-sized retail store, where the merchant or department head is his own buyer as well as sales manager, and you will see a constant stream of "drummers," coming and going. Some bring their samples to the store and sell to the merchant over his own counters; some succeed in getting the merchant to inspect samples at the hotels. Some are heralded by hammer-and-tongs advertising and are supported by expensive displays in national magazines and local newspapers; some are their own advance agents and can afford to do no more than write a letter on the hotel stationery, from the town ahead. But they all come and keep coming, whether the merchant buys or not. They argue and sweat and talk and demonstrate, and finally they get the order that pays for all the work.

The electric industry has not learned to hustle this way.

The merchant wants and expects to be solicited, but he isn't going to fall too quick. He's got to be shown. He wants all the facts and figures. Then he wants time to think it over, to figure out whether he dare spend that money. And right here, the solicitor has got to show the merchants a profit. They won't get very enthusiastic over your profits, but if you show them where they win, they are interested. And lots of times a merchant is interested without knowing it. He hears about something new—a vacuum cleaner, for instance. At first he is not personally interested, but he keeps on reading items here and there. In another town some man with whom he is acquainted buys a machine, and he watches the results. Finally, the editor of *The Dry Goods Economist* asks him what he is interested in, and he answers, vacuum cleaners. He's ripe. The sale and the profit are there for the first salesman who comes along.

But before he's ripe, the electrical salesman has quit. One time a central station manager became quite enthusiastic on the subject of electric vehicles, even to the extreme and unusual limit of buying one himself. This man canvassed the town personally—saw every doctor, every merchant, and even tried to interest two factory men in electric trucks. Result—nothing.

The canvass took about a month, and at the end of that time the lighting man decided that there is no future in electrics. He believes the same thing today, though seven machines have since been sold in town. These machines were sold by the vehicle manufacturers direct, without any co-operation upon the part of the lighting man. "You can't sell vehicles here," he said, "I tried it and failed; there's nothing in it." Of course not—if you make one wild try and quit. The clothing salesman doesn't sell his "line" to your merchants the first call; the shoe jobber's salesman never sells on his first trip.

Time is a big factor in any development. Things that were failures a year or two ago will succeed today. I know a town where a really good sign man failed to get a single result in five weeks, in the fall of 1908. When a new management recently took over the plant, the new commercial manager closed three sign contracts—good big ones, too—the first day. With electric flatirons it was the same way. They were a frost when I was in the business; today, an electric flat is as standard as a water back on a gas stove. Same with industrial lighting. The pioneer in that field failed; today, he's watching somebody else sell, in 10,000 lots, the very stuff he designed. Time is the big factor, and because your merchants weren't ready to buy electric vehicles two years ago doesn't argue that they won't buy now. *The Dry Goods Economist* man has proven that they are interested. He has the inside facts on 300 and of that number 123—almost half—are ready to talk business. That surely means something.

What it means is simply this: that we electrical people are asleep on the job. We can't seem to realize that our business is like every other business—that we must not only push, but we must persevere.

But it means something else—it means that we must get the merchandising idea more firmly fixed if we are going to fill all the wants of the communities we serve. Solicitation will do a great deal, but the establishment of well-kept, well-stocked, well-managed electrical stores will do more. We can't expect to hustle around to everybody every day in hope of landing an indefinite order for something. We should establish centers where the man with an interest in electrical merchandise can go for information and to buy. In too many towns the central station office is still at the plant, a mile out of town, and the only contractor has a place up an alley, upon the door of which hangs a slate with the words, "Will return in an hour," in a weather-worn scrawl.

The lighting man is still too often an engineer, or at best, a purveyor of light; the contractor even yet cannot see anything in his business but wiring jobs and the sale of an occasional motor or a few fixtures. Neither realizes that today the electrical business is just like any other business and that the way to get money is to find out what people want and give it to them—at a profit.

That, really, is the whole proposition—to find out what people want, and supply it.

People want, in every town and city, an electric store. They want a place that's run like a hardware store or a jewelry store or a house goods store—a place where they can go and ask for something, and get it. They want to be waited on in the electric store as they are waited on in the other stores. They want their wants anticipated. They want new things brought to their attention. They want the electrical merchant to solicit their business.

They don't want to go to the editor of *The Dry Goods Economist* for information and advice on electric vehicles and electric signs and electric cleaners and electric elevators. And the only reason they do so is because somebody is asleep. That's why.

The Headache Bottle Sign

It has long been recognized as a basic principle in the science of advertising, that in every advertisement the merchandise itself should be shown, if possible. There is no description of the goods which can be as vivid as a picture of the goods themselves. This principle has been applied in a most ingenious and clever manner, in a new electric sign recently erected in Baltimore.

High up on the top of one of Baltimore's tallest skyscrapers, 300 feet above one of the busiest thoroughfares, is a bottle. This bottle bears the label of a well-known headache remedy, "Bromo Seltzer." From the sides of this bottle blaze forth the rays from 554 16-candlepower incandescent lights, formed into flaming letters 10 feet in height and six feet in width, flashing their message to all points of Baltimore and the surrounding territory. The sign is 70 feet in height and 20 feet 7 inches in diameter, and contains 60,000 pounds of revolving metal reinforced with gigantic

discs. It required 365 days for construction, and although it contains more than 30 tons of massive metal, it is so cleverly constructed and so perfectly balanced that it is easily revolved at the rate of one revolution every 30 seconds, by a motor of only three horsepower.

One of the greatest problems confronting Williams and Shock, who engineered the contract, was the selection of a material capable of withstanding long exposure to all climatic conditions, and of proven durability. At first 1-4 inch copper was considered, but later toncan metal of 14 and 16

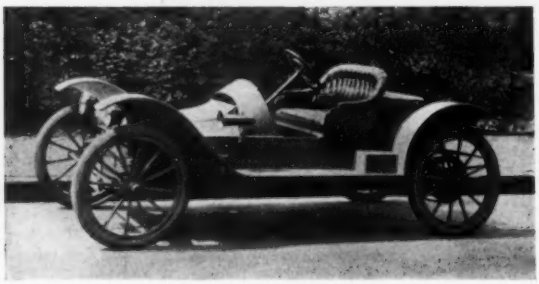
gauge galvanized, was chosen as the most desirable, because of its rust-resisting and anti-corrosive features.

A Real Electric Roadster

Some very interesting figures have just been given out, covering the remarkable long distance run of the new electric roadster, which was exhibited at the recent Electrical Show, in New York, by S. R. Bailey & Co., of Boston. This car ran from Boston to New York, a distance of 244 miles, in exactly 12 hours and 12 minutes running time, the trip being made in four daily runs, as follows:—

	Miles by Odometer	Running Time	Miles Per Hr.
Boston to Worcester	45	2.15	20
Worcester to Springfield	53	2.30	21.2
Springfield to New Haven	64	3.12	20
New Haven to Stamford	43	2	21.5
Stamford to New York	39	2.15	17.3
	244	12.12	20.0

The car started out with a fully charged battery, and another full charge was taken at night in New Haven, with "boosts" at Worcester, Springfield, and Stamford. The average time of the "boosts" was two hours and three-quarters, and this time was available for rest and food, but the same charge could have been obtained in considerably less time if it had been possible in every case to get charged at the desired rate.



The Bailey Company were first prompted to the manufacture of this car through the statement of the Edison Illuminating Co., of Boston, that they would replace their gasoline passenger cars, used by heads of departments, inspectors, etc., as soon as electric vehicles were manufactured which could do the work as the gas cars do it. The requirements in one class of work were that a car should cover in a day 80 miles in 4 hours running time, under all ordinary conditions.

In this Bailey Roadster a car has been brought out—fully capable of this work—as has been fully demonstrated during the last three months of road tests. All records for electric cars were broken by the Boston to New York run, and the Edison Company's observer, having reported the results to his Company, six duplicates of the Bailey Roadster have been ordered for immediate delivery to replace gas cars now in use.

With the Bailey Roadster not only the speed but the distance on one charge has been greatly increased. Equipped as on the New York trip with 60 A-4 Edison cells, and driven at an average speed of 20 miles per hour, the distance on one charge is about 80 miles. The standard equipment for this car, however, is 50 A-6 Edison cells, having 25 per cent greater capacity, and with this equipment the distance on one charge at the same average speed is increased to nearly 100 miles. At lower speeds the distance on one charge is greatly increased.

When necessary the Edison battery can be charged at three times the normal rate, without any injury whatever, the only undesirable result being a slight reduction, about 10 per cent, in economy of power. It is seldom that at this rate more than two hours will be required to give a battery full charge, and short "boosts" of perhaps only 15 minutes will often be enough to give a partial charge sufficient under the circumstances.

When, however, the owner of a car has his own charging apparatus, there is usually abundant time for charging

and no necessity, therefore, of charging at higher than the normal rate. The best plan is to charge whenever the car is run into the garage and arrange, as easily can be done, to have the current automatically cut off when charge is completed. By doing this, the car will always be ready to take out with a full charge, and only occasionally will there be any need for charging at higher rates.

The new Bailey Roadster is very distinct in design, as is apparent in the accompanying photograph, and every effort has been made to secure the maximum of light-running efficiency and comfort. This is just the type of car that will appeal most strongly to the "outside man," the salesman, the inspector, the contractor, the architect and any one who wants a light, simple, but tireless vehicle. The practical perfection of this Bailey Roadster should open up a very interesting market, well worth the attention of both the central station and the contractor.

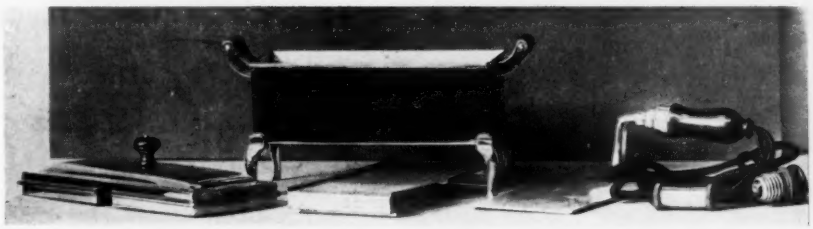
A New Instrument Sterilizer

The psychological effect of sterilizing instruments in the presence of the patient is rapidly becoming recognized by physicians, dentists, and hospital attendants, therefore the advantage of having at hand a convenient and ready method of sterilizing is apparent to all. Instruments may be perfectly clean and disinfected, but the mere fact that the operation of cleaning them is done before the eyes of the patient goes a great ways towards impressing him with the skill and responsibility of the "doctor."

The new Westinghouse sterilizer, shown in the picture, enables this to be done in a very convenient and inexpensive manner. The device consists essentially of the vessel for the instruments and the separable heater element with its attachment plug, cord, and switch.

The vessel is rectangular in shape, 9 by 4 1-2 inches, and 3 inches deep, affording sufficient space for the accommodation of a considerable number of instruments at one time. It is built of sheet copper, which is nickel-plated on the outside and tinned on the inside. The vessel is supported at the four corners by ornamental metal legs, which are riveted and then soldered to the metal of the vessel, a construction that renders it particularly strong, adapting the sterilizer to handling without danger of breakage. The dimensions of the sterilizer permit the use of instrument trays, which are similar to the standard design, and can be lifted out by means of the handle of the heating element, which is always cool. This construction obviates the inconvenience of using forceps or other instruments for removing the trays, a feature of particular advantage.

The heater element is of the Westinghouse immersion type, and is placed within the instrument vessel containing the water. It is supported a short distance from the bottom by flanges on the sides of the perforated metal tray, thus allowing free circulation of water above and below. The heater consists of a strip of metal ribbon, accurately slotted to secure the proper resistance, and assembled under very heavy pressure in a metallic case, from which it is effectively insulated. The case is hermetically sealed, thereby



The Test of Service

Nov. 20th, 1911

Gentlemen:

Replying to your favor of the 11th instant, would say that about six years ago we put up this sign, which has letters eight feet high and six feet broad, and the same has been a most satisfactory piece of apparatus. The letters themselves have a porcelain face.

At the time we figured on putting up this sign, we had other propositions on signs with the face of the letter painted white, but the white porcelain appealed to us, and all we do to keep the sign in good condition is to wipe the face of the letters off about twice a year with waste and they are then as clean and in as good condition as when the sign was erected.

Yours very truly
(Sgd.) Haywood P. Cavarly, Supt. Atlantic Works.

A Permanent Sign Load

This sign stretching over three buildings illustrates the Federal way of handling a difficult piece of sign construction.

Go after big business with signs that stand up after years of service. Our signs give service with a minimum expense for up-keep. It is to your advantage to go after "sign business that sticks."

Years of experience in building good signs are at your command. Ask us for a sketch of that sign you are trying to land.

Write for our new sign bulletin No. 256.

Federal Sign System (Electric)

501 Home Insurance Building—Chicago

THE SIGN OF QUALITY FEDERAL IN ELECTRIC SIGNS

excluding all air and preventing any oxidation of the heater.

This form of heater is the most efficient possible for the reason that it is wholly surrounded by the water, into which all the heat generated must pass directly, effectively preventing any loss due to direct radiation in air, and raising the temperature of the water in the least possible time. Owing to this method of construction, the heater element is practically indestructible, and will not be damaged should it be allowed to operate at full voltage in the open air. The heater may be used for heating liquid in any vessel in which it can be placed, and is listed and sold separately.

Two heats are provided, and the control is obtained through a single telescopic switch, placed in the cord. At the maximum input of 500 watts, instruments can be sterilized in ten minutes or less. The minimum input is 125 watts, and is used for maintaining a temperature attained by the use of the higher wattage. The heater is equipped with a substantial wood handle, having an ebony finish, which serves as a means of lifting out the instrument tray. The handle is always cool, and its finish adds to the attractive appearance of the sterilizer. The cost of operation is practically negligible, as it is only necessary to run it on the high heat for a very short time, and then switch to the low heat.

The sterilizer is manufactured by the Westinghouse Electric and Manufacturing Co., East Pittsburg, Pa.

A New Electric Hot Plate

With the wide variety of electric disc stoves already on the market, it would seem difficult to produce another with any special feature about it to recommend it above others, even for some particular use. The new 8-inch stove recently placed on the market by the General Electric Company proves that the supply of special types is not entirely exhausted, for it has a special feature that makes it useful in increasing the capacity of the kitchen equipment of hotels, restaurants and such

THE IRON WITH THE "Talking Points"

The Acme Iron is easy to sell because anybody can see and appreciate its advantages.

The Acme Iron is simple and get-at-able. You can take it apart in a jiffy and prove to the doubting customer that, if repairs are ever required, a ten-year-old child can fix it.

The Acme is practical. It is quick to heat and heats evenly. It has a heavy base, a hot nose, large heat storage, a cool top, protected terminals and steel clad attachment plug. It does heavier work than any other six-pound iron and doesn't burn out, wear out or get out of order.

The Central Station or Dealer who is tired of having irons come back for repairs will save money and make money by giving the Acme Iron a test.

Acme ELECTRIC HEATER CO.
DETROIT, MICH.

New York Office, 50 Church, St., Manhattan

Don't Coax —Compel

If you want a

Washing Machine

that *makes* the dirt come out investigate the

Dietz Washer

(Double Rubboard)

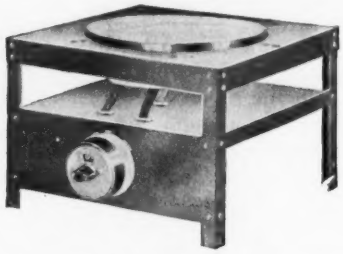
Contains two curved flexible connected wash boards oscillating in opposition and holding the clothes in the suds between with just the right pressure to draw the dirt and leave the linen.

All We Ask
is Your
Opinion
of Our Central Station
Sales Plan

The John Dietz Mfg. Co.
Cincinnati, Ohio
New York Office 50 Church Street

places, where the ordinary disc stove is inadequate.

It is also adapted for carpenter shops, binderies and other manufacturing establishments where a high



power rapid heating plate is required. This stove is provided with a heating element of calorite, and by means of a three-heat indicating switch, a heat dissipation of 375, 750 or 1500 watts may be obtained on 95-128 volts, or 300, 600 or 1200 watts on 200-250 volts.

Shelby Course on Store and Window Illumination Interesting and Instructive

Once in a while some manufacturer produces a piece of commercial literature that, while primarily an advertisement, is really of as much value to its readers as it is to the firm that issued it. Of such nature is the Shelby Course on Store and Window Illumination, recently issued by the Shelby Electric Company, of Shelby, O., for distribution among central station salesmen, contractors, electrical dealers, and all others interested in the subject of efficient illumination.

The course, at the present writing, comprises twelve studies, covering 75 leaves, which are well illustrated and bound in a leather cover. The first study takes up the general principles of show window illumination, dwelling upon the necessity for adequate window illumination, the requirements for good window lighting, with a method of calculating illumination to obtain the best results. It concludes with an example involving the principles given, together with a set of questions on the study.

Study Number 2 deals with reflectors, their general principles, types, etc. There is also data regarding the position of reflectors, and a set of questions, as there is in all the studies.

The third study takes up special cases of show window illumination, attention being given to all types of windows, with illustrations of good and bad window lighting installations.

Transparent signs are discussed in the fourth study, showing how they can be made to conceal the lighting units, so that they are practically invisible from the street, and to increase the advertising value of the merchant's window. There is also interesting data on lighting automobile show windows in this lesson.

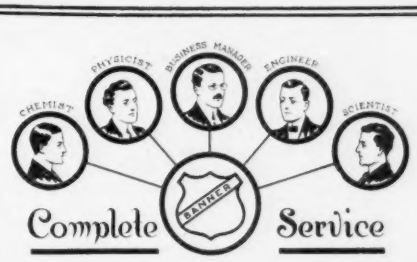
The fifth study takes up the subject of store illumination, giving calculations to be used in designing a lighting system, together with advice as to the choice of reflectors.

The illumination of groceries, fruit and meat stores is the subject of the sixth study, in which diagrams showing the layout of counters, cases, etc., with the proper outlets for the lighting system, are given.

The next study deals with office lighting, explaining the respective advantages of direct, indirect and semi-indirect systems of illumination.

Number 8 covers restaurants and confectionery stores; number 9, dry goods and shoe stores; number 10, tailor shops, clothing and rug stores: number 11, hardware stores and automobile salesrooms, and number 12, drug, jewelry, and china stores.

The course is written in a clear, direct style with technical terms omitted wherever possible, so that it is readily comprehended by the lay reader, and contains much information that is of value both to the electrical salesman and to the merchant who is planning either a new installation or a change in his present one. It is just the kind of a reference book that can be loaned by the contractor or the central station man to a prospect who is interested but not yet moved to the point of spending money.



Complete Service

The Banner Label on a lamp bespeaks more than quality; it insures maximum service—most light for least expense—and the backing of a complete service organization.

Illumination service insured by our engineering development and business organization.

Delivery service insured by our large lamp stock and ample factory capacity.

Lamp service insured by our factory methods, patent processes and rigid inspection.

Banner lamps always do what is claimed for them, they are absolutely dependable.

We offer our complete service with every lamp.

The Banner Electric Co.
Youngstown, Ohio

21 FEET WIDE, 40 FEET HIGH, CONTAINS 1200 LAMPS
BUILT BY THE A. & W. ELECTRIC SIGN CO.

Pabst Brewing Company

CAPACITY,
2,000,000 BARRELS PER ANNUM.

Milwaukee, Wis. February 28, 1911.

The A. & W. Electric Sign Co.,
Cleveland,
Ohio.

Gentlemen:

Referring to the electric sign you recently made and erected for us on the Empire Building of this city, we feel called upon to express our appreciation of the very satisfactory manner in which this work was executed and your very careful attention to every detail of change requested during the erection of the sign.

From the time service was installed, this sign seems to have been in perfect working order, very few changes or alterations having to be made, and from the compliments we have received from every side we feel justified in saying that this is a piece of work that you can well afford to feel proud of.

Yours truly,

PABST BREWING COMPANY.

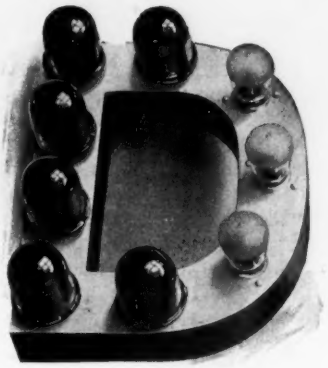
FHS-AC

By

In writing to advertisers, mention "Selling Electricity."

The Holiday Spirit and the Electric Sign

Here is a timely tip for the Christmas week. Merchants always dress up their stores for the Christmas trade—holly and mistletoe all over the place, and their prettiest, brightest goods on display in the windows. Why not dress up the electric sign, too? There's no reason why a store shouldn't present a festive appearance here as well as inside.

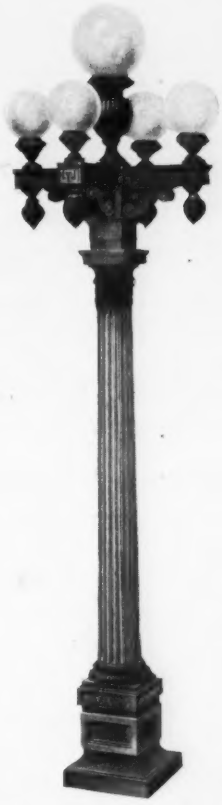


It might be difficult to induce a merchant to purchase a lot of natural colored glass lamps, just for use during the holidays. They are expensive, and dipped lamps are more or less unsatisfactory. It should be easy, however, to interest him in color caps, which are comparatively inexpensive and will give the desired color effect.

By the use of color shades, such as those manufactured by the A. & W. Electric Sign Company of Cleveland, the merchant can add greatly to the interest-compelling power of his sign, and at the same time liven the outside appearance of his store in keeping with the inside. The A. & W. color shades, by the way, are made to cover the entire lamp, fitting in a metal clamp held tight by a rubber gasket. Such decoration lends the holiday spirit, and the central stations, contractors and dealers can set the example by adding a bit of color to their own signs first. The merchants will be pretty apt to follow.

First of All

Reliability



Corinthian Standard

Patented

Improvement has been the potent factor in our growth.

We have improved many times. We are improving every day. We are improving today.

The sum total of our progress is shown in the "Corinthian Standard."

Now you know.

Flour City Ornamental Iron Works
Minneapolis, Minnesota

Christmas Offer to Brooklyn Churches

Appreciating the danger incurred by the use of lighted candles on Christmas trees in church festivals at this holiday season, and with the object of illustrating the safety and beauty of the modern method of electrical Christmas tree decoration, we make the following offer:

To any church having a Christmas festival between December 20-31, using service of the Brooklyn Edison Company, we will loan without charge a complete electrical Christmas tree lighting outfit consisting of various colored miniature electric lights for any tree, however large.

The only limitation to this offer is that owing to the demand for these sets by sale to our consumers for home use, the number of churches supplied cannot exceed fifty—the first fifty applying for this service after the publication of this announcement Monday, December 12, 1910.

All requests for this service must be addressed in writing to our Sales Department, and signed by an officer of the Church or Sunday School to be served.

EDISON ELECTRIC ILLUMINATING COMPANY OF BROOKLYN.

General Offices, 360 Pearl Street.

This advertisement was published in the daily papers of Brooklyn two years ago and served to create a wide interest in the lighting of Christmas trees by electricity. The 50 applications were made immediately and there were many more received too late. There is certainly no surer way to bring these tree-lighting outfits to the attention of the fathers and mothers of young children than through the medium of the Sunday School Christmas celebration. Here is an idea well worth applying this year.

"Let Your Light So Shine"

The public will look *at* an electric sign, but it s up to the owner to look *after* it. This is a fact that cannot be too strongly impressed upon the advertisers

Uncle Sam spends millions of dollars on his navy and no small percentage of this goes towards keeping the vessels constantly in perfect condition. The sensible house owner has his property looked after and repaired at least once or twice a year for the same reason that he goes to the dentist every six months "whether he needs it or not."

Is there any reason why an electric

D 5759

Honest Goods at Honest Prices

is maintained when you buy Williamson Fixtures.

We cannot afford to do otherwise, because our reputation is at stake.

Ask anyone that has Williamson Fixtures, makes no difference, whether they might be the expensive or inexpensive kind, they will tell you they're the best that can be had for the money. Why? Because the three most essential points in making up our Fixtures are, the materials, construction and finish, all of which are considered.

As the water finds its level, so does every one of our Fixtures find its proper price, and its real value.

Look up our reputation, that's all.

Our catalog No. 17 now ready for distribution, to the trade only. Send us your name and we will forward to you the most complete fixture and supply catalog on the market, express paid.

R. WILLIAMSON & CO.

Manufacturers of

Electric and Combination Fixtures and Art Glass Domes

Electric and Gas Appliances of Every Description

In writing to advertisers, mention "Selling Electricity"

sign should not be looked after as carefully and even oftener? A sign with a few dead lamps here and there, or a whole letter dark, as is sometimes the case, speaks badly for the firm whose name is on that sign and incidentally reflects upon the company that installed the s gn.

It is poor advertising.

The name of a certain New York hote was ment oned in a party of business men. "That house must be losing money," said one of the men, "I noticed their electric sign the other night and nearly a quarter of the lamps in it were dead." That's what carelessness does. With a little regular inspection it's mighty easy to keep an electric sign looking like it did the day it was put up. Owners of night signs should be frequently reminded to keep their lamps trimmed and burning, for a poorly kept sign is nearly as bad as no sign.

A Cigar Lighter with Unique Features

Statistics are not at hand on the percentage of people in this country that are smokers, but it is safe to say that, among the men, at least, they

are considerably in the majority. Hence it is that any new discovery or invention connected with, or pertaining to, the use of the "weed," will be of wide interest, for tobacco is one

THE accompanying illustration is one of the many designs of indirect lighting executed by me and used in Residences, Public Buildings, Churches, etc. If properly used this effect is the nearest approach to daylight yet produced in artificial illumination. Have furnished about one hundred residences throughout the country in which this style of lighting was used and has given the best results. For reference I give you a few of the buildings furnished with this system of lighting.

Canyon Hotel, Yellowstone Park, Wyo.
Hannibal National Bank, Hannibal, Mo.
Hannibal City Hall, Hannibal, Mo.
Farmers & Traders Nat'l Bank, Hannibal, Mo.
Stock Yards National Bank, So. Omaha, Nebr.
Rock Island Savings Bank, Rock Island, Ill.
State Savings & Trust Co., Moline, Ill.
Mudlavia Hotel, Kramer, Ind.
First National Bank, Lincoln, Nebr.
and many others too numerous to mention.

Consult me as to your requirements and I shall be glad to submit cuts and prices.

WILLY H. LAU
56-58 E. Lake St., Chicago

of those touches of nature that make the whole world kin.

It is not customary to associate electricity with cigars, cigarettes, or even the now well-known "Jimmy" pipe, but an appliance recently placed on the market by the Pittsburgh Electric Specialties Company is one that will be of interest not only to dealers and storekeepers, but also to individual smokers.

This device is known as the Helion Cigar Lighter, and while similar in design to other lighters it possesses several unique and interesting features. Chief among these is the heating element used, which is said to have many hundred times the resistance of any previous type. As a consequence of this a large amount of energy can be concentrated into a small space, so that a few inches will produce the same result when placed on an electric circuit as many feet of ordinary resistance.

This element is capable of withstanding the enormous temperature of 1,700 degrees Centigrade without change in its physical, chemical, or electrical characteristics, so that all danger of short-circuiting, due to its becoming plastic or losing its shape, is eliminated. Also, on account of the small amount of material it comes up to temperature very quickly, and when connected to the proper voltage will maintain its temperature and hold its character indefinitely, as it burns in the open air, requiring no insulation, and is not affected by moisture, draughts of cold air, by cigar ashes, or any other foreign substance.

Another good feature of this lighter is its cheapness, a fifty-cent heater being guaranteed to last six months in any cigar store, while, of course, in a private residence this period would be much longer, as the lighter would not be used as often. The Helion lighter is made in both swinging and desk types, as illustrated, and is furnished for either ac. or dc. circuits, and for two voltage classifications, 100 to 110, and 110 to 120.

POSITIONS OR MEN WANTED

The rate for "Positions or Men Wanted" advertisements of forty words or less is one dollar an insertion; additional words, one cent each; payable in advance. Remittances and copy should reach this office not later than the 15th of each month for the next succeeding issue.

Replies may be sent in care of Selling Electricity, 17 Madison Avenue, New York City.

WANTED—Position as Contract agent or manager of new business department, by a man experienced in central station business methods. Best of references. Address A, B, C, Care of Selling Electricity, 17 Madison Ave., New York City

WANTED—Position of Sales or Advertising Manager with Electric or Combination Co. in city of 75,000 or over. Can furnish best of references covering ten years' experience in the above positions. Can assume position on Jan. 1st. 1912. Correspondence solicited. Address "T" Care of Selling Electricity, 17 Madison Ave., New York City.

WANTED—Information regarding construction of chemical rectifier. 25 amperes. State price. L. Fixen, 1313 Carmen Ave., Chicago.

FOR SALE—Motorless Flasher for single circuit sign. 20 amp. Alternating. Brand new. X, care of Selling Electricity, 17 Madison Ave., New York City, N. Y.

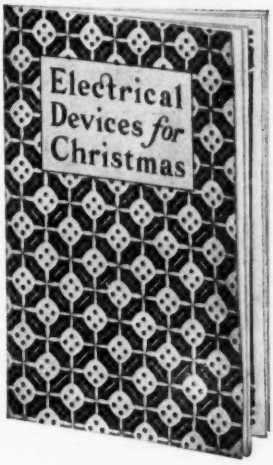
FOR CHRISTMAS—"Edison, His Life and Inventions" by F. L. Dyer and T. C. Martin. An illustrated history of electricity for the last fifty years. Two volumes. Prepaid, securely packed, $4.28. W. C. A., care of Selling Electricity, 17 Madison Ave., New York City, N. Y.

Everson his cleaner

A CARD: The improved appearance and handsome finish of the New Everson Electric Vacuum Cleaner makes it the *easiest to sell* as well as the most efficient and durable. Take a description of the machine to your engineers before buying.

Everson Manufacturing Company
271 Franklin Street, Boston, Mass.

Are you looking for just the right Christmas Gift?



Something that is so attractive that it will give immediate pleasure, and at the same time is so serviceable that it will find constant use? Then

Send for This Book

It describes the full line of Westinghouse Electric ware for Christmas—Toaster-Stoves, Chafing Dishes, Irons, Coffee Percolators, Tea Samovars, Sewing Machine Motors and many more.

They make splendid gifts: so handsome, useful, and economical. You will be sure to find something among them that will just suit the housekeeper, the young girl, the bachelor, or yourself.

A gift of a Westinghouse device is a compliment to anyone.

Send a postal at once for this free Christmas book No. 4197-x to Westinghouse Publicity Department N.

Westinghouse Electric & Mfg. Co.
East Pittsburgh, Pa.

SALES OFFICES IN 45 AMERICAN CITIES.

We Want *Your* Dollar Ideas!

The schemes you've used to land the order, to settle the complaint, to get to the hard-to-reach prospect. They are most all of them Dollar Ideas and we'll print them and send you the Latest Thing in Dollar Bills. One for each.

SELLING ELECTRICITY

17 Madison Avenue, New York City

Mr. Power Solicitor:—

It enables you to secure more business and simplifies your work

Solicitors calling upon isolated plants may, by connecting in a portable type of printing attachment, show the owner the cost of his energy from the private plant and the probable saving to be effected by using central-station service. It will show the rate he can earn. It will also serve to show the owner of the isolated plant all interruptions and consequent losses in his private plant service.

A great advantage is that the portable printing attachment may just as easily be installed in the manager's office, where he can personally watch its operation.

The expense of central-station solicitors on isolated plants or large prospective power customers may be greatly reduced and their work made much easier by the use of the Chicago Printing Attachment.

Our new Bulletin No. 55 goes into very complete detail upon this class of work. We will gladly send it upon request.

It makes the solicitor's work easier—Bulletin No. 55 tells about it.

MINERALLAC ELECTRIC COMPANY

Merchants Loan and Trust Bldg. **CHICAGO, ILLINOIS**

Pacific Coast Representative: VAN E. BRITTON, 697 Monadnock Bldg., San Francisco

Only High Grade **ELECTRIC SIGNS** of original design and low operating cost should be recommended by managers and contract agents if they wish to insure the stability and growth of the electric sign business in their respective towns.

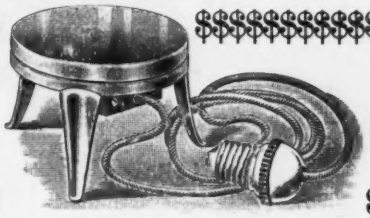
HALLER SIGN WORKS (INC.)
704 So. Clinton Street, CHICAGO

The most convenient and durable little made, also combination TOASTER. Price of either $5.00

ELECTRIC DISK STOVE

WAAGE ELECTRIC CO. 682 Madison St., Chicago, Ill.

Sent express prepaid upon receipt of price.
Write For Particulars.



OUTDOOR ADVERTISING EVERYWHERE

The O. J. Gude Co., N.Y.

Originators of Spectacular Electric Sign Advertising, and of the "Great White Way", New York City

Owners of Electric Moving Sign U. S. Patent No. 648,677

Use the Color-Shade That Does Not Fade

AND

Makes the Sign Show Brighter

Sample Sent on Approval

THE A. & W. ELECTRIC SIGN CO.

Cleveland, Sixth-City

An Innovation in REFLECTORS

For Billboards, Bulletins, Walls, etc.

Heavy galvanized iron hood; **lined with mirror glass;** octagonal in design; throws strong white light with perfect distribution, and casts no shadows.

Write for descriptive Bulletin No. 15

Don't forget that we make Electric Sign Flashers also

Reynolds Electric Flasher Mfg. Co.

Largest Manufacturers of Flashers in the World

Also Manufacturers of Billboard Reflectors, Transformers, Time Switches, Window Displays, etc

617-631 W. Jackson Blvd., Chicago **1123 Broadway, New York**

There is Not Much to Say on a Bank Sign

The trick is to make the message strong and far reaching.
The signs we build are all aggressive salesmen, with the best possible construction.
Buy your next sign from

YOERGER-BUTTERWORTH SIGN CO.
COLUMBUS OHIO

Sign Projector History to Date

The Electric Sign Projector has made a big hit with wide-awake merchants. It means lots of business for you, but to get it all—to make one projector sell another—you must give each user the type of projector suited to his conditions.

Since we first introduced this method of advertising and brought out the original Sign Projector, we have put three other types on the market. Each one of these serves a particular purpose.

The first model, for instance, is equipped with a 132-watt type Westinghouse Nernst burner, and is intended for average city conditions, streets well lighted.

Another type, equipped with a carbon filament stereopticon lamp, is on account of the high current consumption and the uncertain performance of this type of lamp, recommended only to those with whom first cost is the important factor, and operating expense a secondary consideration.

The Tungsten Sign Projector

The filling of orders for this type of Projector depends entirely upon the manufacturers of the lamps. The latest information from the largest manufacturers of tungsten or mazda lamps in the country is to the effect that they are not able at the present time to make delivery of suitable lamps or even furnish data as to their operation, life, etc. If you want to wait for this model, write for information as to prices, etc. We will give it to you as soon as the lamp manufacturers make it available.

The price will be just enough higher than Model B, which sells at $6.00 list, to cover the difference in cost between the tungsten and the carbon lamp.

Flashers

There is nothing new about the use of flashers on any sign. We furnish flashers at $1.00 each.

Colored Glass Slides

We do not recommend the use of colored glass slides with any illuminant that does not give several hundred candle-power, but are equipped for making them at lowest prices upon demand.

The Most Powerful Projector Made

The new Model D Sign Projector is now ready for delivery. It is equipped with a double burner and has twice the intensity of Model A. Produces a highly intense sign on main city thoroughfares. Send for folder.

Ask for a guarantee with every Sign Projector

Pittsburgh Electric Specialties Company

927 French Street Pittsburgh, Pa.

COLOR CAPS.

Patented 7-11-05

STYLE A

Natural Colored Glass

STYLE B

Why Use Expensive Colored Lamps?

Dipped Lamps Won't Last

Leading Sign Manufacturers Use COLOR CAPS.

Because They're Practical

Style "A" For ELECTRIC SIGNS ONLY

Style "B" For Electric Signs, Temporary Xmas Decorating, Streamers, Show Windows, etc.

Both Snap on the Lamp

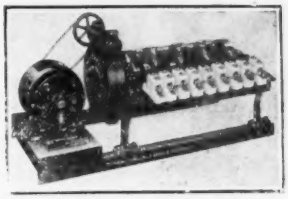
New York FLASHERS

With the Exclusive KILARK PICUP BLOCK

Durable Practical Reliable

Central Stations

Insist Upon Them



BETTS & BETTS

304 West 53rd Street, New York, U. S. A.

BOSTON OAKLAND LONDON PARIS BUENOS AIRES

This is a sample of

"IRIS"

the most beautiful glass made in America. The exquisite decoration is **in** the glass, not **on** it. The designs are all informal; they lack the cold symmetry which marks the ordinary machine-decorated product. The color-harmony characteristic of "IRIS" is as effective when the shades are cold as when they are aglow with light, while the shimmering iridescence gives a richness not found in any other American product. ::::::::::

You Can Not Appreciate the Charm of "IRIS" Until You Have Seen the Color Tones! : : : : : : : : :

Plenty of people use electric light because it is *better*—not because it is cheaper—than other light.

These people want artistic tone in their lighting; they are willing, if necessary, to sacrifice efficiency to effect. The most artistic lighting effects are secured with

"IRIS"

The new Fostoria catalog will aid you in your campaign for *better* residence business.

You should have this catalog.

FOSTORIA
GLASS SPECIALTY
COMPANY
FOSTORIA, OHIO

INVESTMENT SECURITIES

We recommend to investors the following:

***Commonwealth Edison Company**

First Mortgage 5% Gold Bonds. Due June 1st, 1943. Interest payable March 1st, September 1st.
Price to yield nearly 5%.

***Commonwealth Edison Company**
(Stock)

Paying 7% per annum, 1¾% quarterly, February 1st, May 1st, August 1st, and November 1st.
Price to yield about 5½%.

Public Service Co. of Northern Illinois
Being a consolidation of
North Shore Electric Company
Illinois Valley Gas and Electric Company
Economy Light and Power Company
Chicago Suburban Light and Power Company
Kankakee Gas and Electric Company

First and Refunding Mortgage 5% Bonds. Dated October 1st, 1911. Due October 1st, 1956. Interest payable April and October. Denominations $500.00 and $1,000.00.
Price to yield better than 5%.

Public Service Co. of Northern Illinois
(6% Cumulative Preferred Stock)

Dividends quarterly, February 1st, May 1st, August 1st, and November 1st. Earning over four times dividend requirements.
Price to net about 6½%.

The stocks of the above Companies are tax exempt in Illinois.

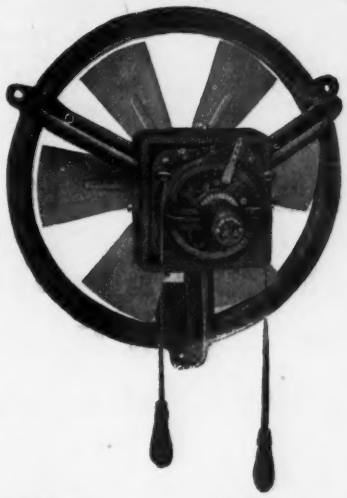
We make a specialty of above securities and will be glad to furnish further information and prices.

*Listed on Chicago Stock Exchange.

Russell, Brewster & Co.
Bankers and Brokers
116 West Adams Street
CHICAGO

New York Office
111 Broadway

Members New York Stock Exchange
Members Chicago Stock Exchange



Did it ever strike you that WINTER is the best time to sell ventilating fan motors and current?

Well, it's a FACT!

And really, when you stop to think about it, CONTROLLED VENTILATION is more important in winter when doors and windows are closed than in summer, when everything is open.

I only tumbled to this fact when I began to sell

Kimble A. C. Motors and Fans

as a means for boosting the sale of my alternating current service.

The beauty of Kimble A. C. fan motor is that it can be run at any speed, from O to maximum by the mere pull of a chain; and that when you cut speed you cut current consumption correspondingly.

Then, you can run them forward or back, intake or exhaust, making the change by pulling one or other of the chains.

Most astonishing of all, the starting pull is a good deal less than full running load. For instance, the 36 inch Kimble Fan that moves 17,300 cubic feet of air per minute, starts on 4 amperes, runs full speed (650 R. P. M.) on 8 amperes, and reverses, from full speed forward to full speed back on 9 amperes.

Great fans, these, for hotels, restaurants, clubs, theaters, halls, churches, libraries, factories or anywhere where they want the most pure air for the least cost and want ventilation under absolute and instant control, at all times.

Better follow my example and "get next." Write to

KIMBLE ELECTRIC COMPANY
1115 Washington Boulevard, Chicago

Send This to Every Shop and Factory in Your Territory

—Both Customers and Prospects

It Will Sell Manufacturers' Equipment of All Kinds

Concentrate on this field this month, while your merchants and residence consumers are thinking of nothing but Christmas. Send out this Manufacturers' Equipment Number of ELECTRICAL PROGRESS and have your salesmen follow it up vigorously. It covers the entire field—light, heat and power—and will influence both present customers and prospects. READ IT—You'll See Why.

And while the campaign is on, back it up in your newspaper advertising. Take a copy to the editors too; they're always looking for stories and they'll use some of these. That's the best kind of advertising.

Send in your order TODAY—Get enough to send one to every shop and factory you can serve.

ELECTRICAL PROGRESS—for 10,000 and over—2 cents per copy.
5000 to 10,000—2½ cents per copy.
1000 to 5000—3½ cents per copy.
Under 1000—5 cents per copy.

If you sign a contract you enjoy these quantity prices on any orders within a year. Send for a contract form.

But Order the Manufacturers' Equipment Number—NOW.

Published by

THE RAE COMPANY

17 Madison Avenue, New York City

ELECTRICAL PROGRESS

Manufacturers' Equipment Number

In Shop or Factory

ELECTRICITY

Means

EFFICIENCY

AND EFFICIENCY MEANS
REDUCED EXPENSE AND
INCREASED PROFITS : : : :

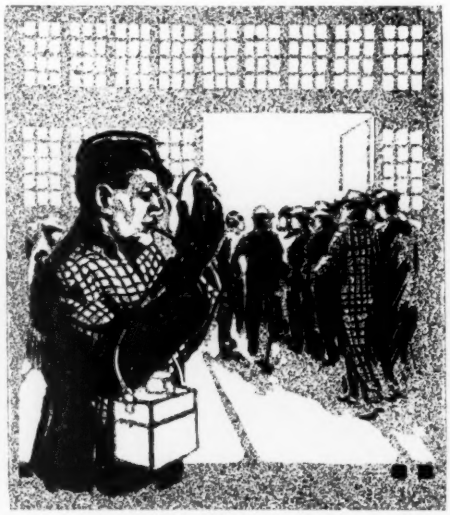
PUBLISHED BY
THE RAE COMPANY
17 MADISON AVE. NEW YORK

DECEMBER SUPPLEMENT TO "SELLING ELECTRICITY"

Copyright, 1911, by The Rae Company

Holophane for Overtime

Overtime work means night work. You pay your men "time and a half" but actual records will show that during the overtime hours at night, you never get normal production. There are two reasons for this. First it's the tired end of the day and vitality is low. But the bigger reason is that in most plants the night illumination is bad. Men who work with black shadows, with strong glare or in dim light, suffer eye-strain which results in inaccuracy, carelessness, waste time and spoilage. So although you pay "time and a half" you must be content with less than normal output. Is that good business? There is an easy solution to the problem. Holophane Steel Reflectors produce a working illumination of sunshine efficiency. When properly installed, shadows are practically eliminated, no light is wasted, there is no eye-tiring glare and the lighting expense is reduced. We have installed the Holophane System in Textile Mills, Boot and Shoe Factories, in the Iron Industry, Paper Mills and under many other conditions. Every factory equipped by us can turn out practically as much work after dark as at noonday. They now handle overtime work efficiently.



Install Holophane Steel Reflectors in *your* plant for the dark hours of winter and for overtime. The money you will save in lessened spoilage and waste time is just as good as the money made on sales.

HOLOPHANE COMPANY

SALES DEPARTMENT

NEWARK, OHIO

New York Boston Philadelphia Chicago San Francisco London

Holophane Company, Ltd., 62 Front St., W., Toronto, Canada

Electrical Progress

A Small Magazine Preaching The Popular Application of Electricity

Manufacturers' Equipment Issue

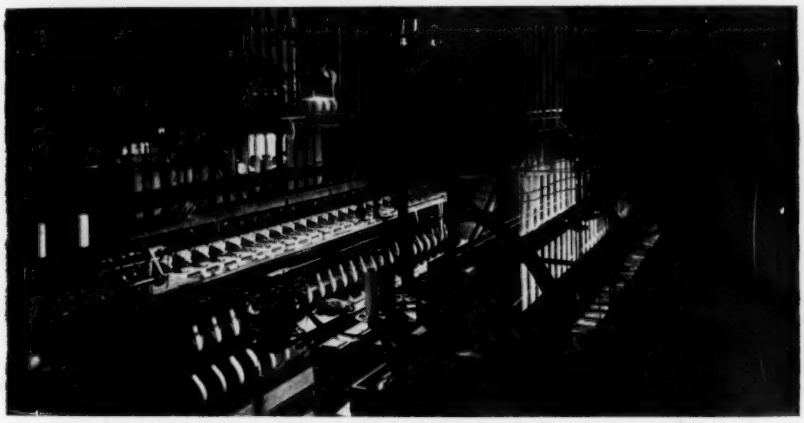
Keep Your Tools Sharp!

Why this Injunction Covers the Several Phases of Efficiency in the Shop, Mill and Factory

Success in this world consists not in doing things, but in getting things done. It makes absolutely no difference how many men you employ in your factory, or how much machinery or what your "gross turnover" may be, your real success is measured in the actual constructive work you do, and in the dividends you pay; in other words—on the efficiency of your organization. There are several phases of efficiency which may work for or against every man who operates a shop, mill, or factory, as he wills.

Efficiency is a much-used and an ambiguous word; we all think about it, we all talk about it, and we all believe ourselves to be striving after it. Yet, half of us pass it by unrecognized in the pursuit, just because we are looking for something complicated and involved. Efficiency is just another term for these two simple facts. We all know them and believe, but, unfortunately, they are so simple and obvious that we forget them.

First:—A dollar saved in doing the work is better than a dollar more in profit on additional sales, for there is no "overhead," no "wear-and-tear" on



Good Illumination increases the efficiency of every machine. Everything stands out clear and plain It "sharpens the tool."

this dollar, and the other dollar can still be won.

Second:—In manufacturing, in any mechanical work, there are but two factors—the material and the tools. Every employee, every machine, every vehicle, is a tool in the hands of the man who operates the factory. He must keep those tools sharp, for no one can do good work and fast work with dull tools. That is all there is to efficiency, and it all boils down to the one injunction—Keep your tools sharp! That covers everything.

Keep your tools sharp!—not a simple task for the manufacturer, the mill and shop man—for into the sharpening of these tools comes every problem of power transmission and all the vexing details of handling labor and shop methods. To keep the tools sharp, therefore, means to reduce the costs of power to the lowest point and make the day's work of every operative produce to the highest degree. Modern electricity, electric service from the present-day central station, offers economies in each of these phases of efficiency that bring the immediate realization of actual money saving. Read in the following pages how electricity will increase the output of *any* factory, and decrease the cost of production.

Economies in Handling

Electric Methods Offer Big Opportunities for Saving in Hoisting and Trucking

The heavy costs for handling and rehandling raw and finished product have a very important bearing on the profits in many kinds of business, and in this field electricity has wrought some recent transformations. Motor-driven hoists and cranes, electric hoisting magnets, and small electric trucks for yard and shop work, are now displacing the old methods of loading and unloading by hand and the slow and costly use of horse and cart.

In moving pig iron from the car to the yard pile, for instance, it takes two men to carry a single pig. That was the old way. Today, an electric hoisting magnet picks up a ton at a time, carries it to the derrick, or crane, and, when the current is shut off, drops it. The picture shows two of these magnets at work. They offer an enormous saving over the old method, wherever iron or steel is handled in large quantities. A recent spectacular feat was the raising of a barge-load of kegged nails, lost in the Mississippi River.

A more general application of the electric hoist is the handling of buckets for unloading coal, or other cargoes,

The Latest Development in Internal Transportation. This Electric Truck Crane lifts, carries, and hauls all kinds of loads about the yards and terminals.

Little Electric Trucks like these are used for odd jobs in and out of the factory. They are so handy that they get about the aisles and into box cars.

and in excavation work. One recent installation for unloading coal barges cost only $2,800 complete, with automatic railway car, trestle structure, and full equipment, yet it effected a saving of 10 1-2 cents per ton, and paid for itself in 13 months. The coal had formerly been hoisted by horse-tackle, and hauled to the pile in carts.

But the crowning achievement of electricity in the handling of freight is the little industrial motor truck, that hustles about the factory yards, down the aisles of the warehouse, and in and out of box cars, wherever there are boxes, crates, barrels, or any other raw, or finished, product to be shifted. These little trucks have powerful batteries, and are equipped with cranes, or act as locomotives, hauling

This Electric Hoisting Apparatus saves 10 1-2 cents on every ton of coal.

The Electric Lifting Magnet handles all kinds of iron and steel freight without any "ground man."

trailers, or take the load directly on board, according to the service. They are able to unload from the cars, and deliver directly into the storeroom or shop. Special efficiencies are intro-

Here is one way to improve trucking efficiency. These crates are loaded before the truck comes, and are run aboard. There is no waste of "truck hours."

duced in some cases, through the use of crates into which the goods are loaded, so that the truck is detained only long enough to run the loaded crate on board.

Industrial transportation is a great problem, where the weights are heavy,

or the bulk unwieldy; yet, every dollar saved in these processes is a round dollar of profit. Modern electric hoisting and internal trucking methods offer opportunities for new efficiencies never before possible.

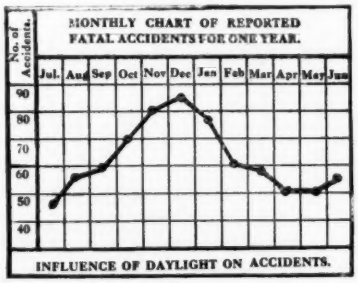
The Profit or Loss in Illumination

Is Your Light a Dull Tool? Or is it Working to Insure the Output?

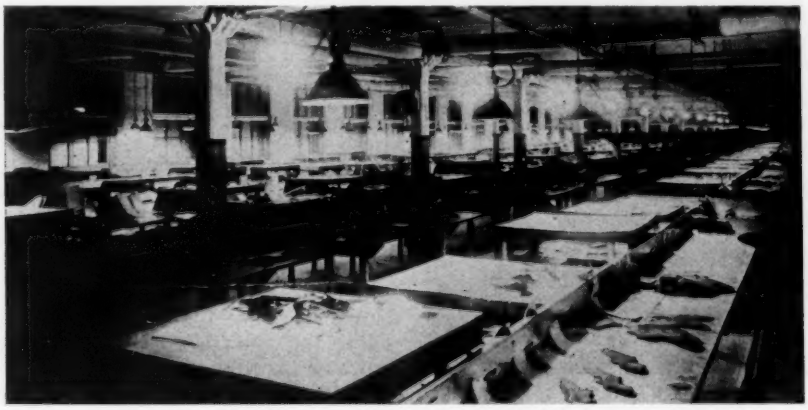
Poor light is a dull tool in the hands of every man on the pay-roll. Forcing your men to use dull tools would be as foolish as tearing up good dollar bills, but it is really no more wasteful than allowing them to work under inefficient illumination. For inefficient illumination does not simply mean light that is satisfying, it means light that is inefficient economically, light that wastes money.

The sole reason why the manufacturer spends money for artificial light is because the operatives cannot work in the dark, and since he is buying, not their time, but the labor they can perform in that time, it is economy to provide the best light, the light that will help produce the best work. This is obviously reasonable and true; yet, there are thousands of shops and factories where absolutely no attention is paid to whether the illumination really helps or hinders.

Good illumination means light on the work itself, and not glare in the eye. The workman needs electric light solely to help him see his work; therefore, all light that is flooded over the walls and ceiling *where there is no work* is wasted, and the glare from bright, unshaded, or improperly shaded lights dazzles his eyes, and actually does harm. That wastes the employer's money, for inefficient illumination—that is, dim lights, troublesome shadows, or glare—is responsible for more wasted time, more spoilage, and more "seconds" than any other factory ailment. It puts a nerve-strain upon the workman's eyes, and headache, inaccuracy, carelessness, and accidents are bound to follow.



This chart, based on fixtures, compiled by one of the big casualty companies, indicates the proportion of industrial accidents which occur in the various months of the year. The short days of winter are taking a heavy toll. Inefficient illumination is the attributed cause, and remember:



This shows what good Industrial Lighting does. Work on the benches is "easy to see," and no light is wasted.

this chart says nothing about the effect on the output of these factories.

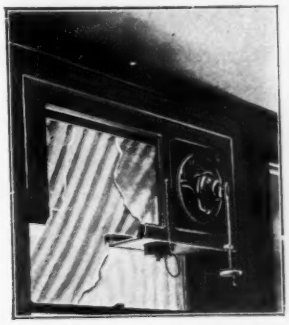
To show how simple and profitable it is to reverse this influence, a recent installation in a shoe factory resulted in an actual increase in production of over 8 per cent. It came from time saved, more "speed," and less spoilage, and at the same time the cost of lighting was reduced over 40 per cent. This is a fact. An enormous volume of light had been wasting over walls and ceilings, and new and more efficient lamps and scientific reflectors, that concentrate practically all the light on the work itself, are now saving this manufacturer hundreds of dollars.

Is the light in your factory a dull tool? If it is, you are losing money wastefully every day. Here is an efficiency within your grasp. The tool can be sharpened.

Ventilation—An Insurance Policy

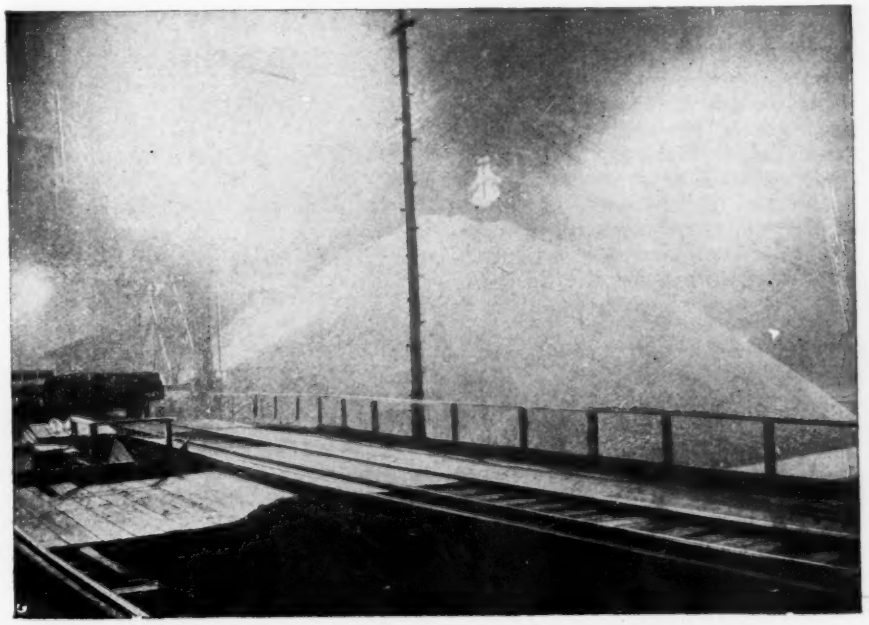
When the cold weather sets in each year the factory manager starts up his steam heating plant. It costs him money. Why should he do it? Simply because he knows that men can't work to full efficiency unless they are in bodily comfort.

The same argument applies to ventilation, and with the same strength of reason behind it. It pays in good dollars of profit on increased production to keep the shop and factory



employees in bodily comfort. Electric ventilating fans, to keep the air pure are practical insurance policies—insurance against inefficiency.

When the air is "dead," and full of dust or odors, the energy, the accuracy, the vitality of the workers is diminished, and the pay-roll suffers.



Another field for lighting efficiency Electric arc lights save accidents, and night work goes faster.

What Electric Power Offers

The Danger in One Basket for all the Eggs—
And Other Profits

If you are a manufacturer of shoes, or brooms, as a matter of cold logic is it not better to concentrate on your own problem, and buy your power from the man who is specializing on the manufacture of power? Electric power, from a central station, offers a surprising variety of advantages and efficiencies; fix your own mind, then, on brooms, or shoes, and let the other man struggle with coal, boiler, engine, and transmission.

Electric motors take the power to the work. Steam-driven plants are often run where the friction load—the power required to turn the shafts, belts, and pulleys—is 50 per cent of the entire output of the engine. That means that one-half of the power generated is wasted, one-half of the coal, bought and burned in the furnace, is simply sacrificed to turn over this mass of transmission gear that stretches between the engine drive wheel and the machines that do the work. Think of it!

Electric motors, however, are attached to the machine, or to a small group of machines (where they are always run together) and this friction load, this 50 per cent of the power required, is eliminated. And, with it, goes the detail and responsibility of engine and boiler room, of buying proper coal, of ash disposal, of maintenance of transmission, and the danger of shut-downs, for electric power from the modern central station is absolutely dependable. If one engine or generator breaks down, others are in reserve, and there is no interruption. It is as unceasing as the calendar, and every dollar's worth of power you pay for you use *at the machine itself.*

Moreover—

—If one-third of your force works overtime, you use electric power for only the machines they use.

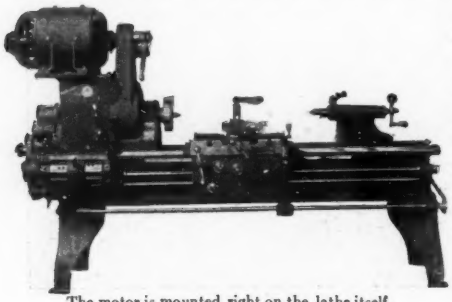
Electric drive on a milling machine. A Wagner single phase motor.

—With electric drive, whenever a machine is not working, all power is shut off, if but for ten minutes, and the expense stops.

—Electric power saves space. Shafts and countershafts are done away with, and motors are mounted on the walls or ceiling, or on the machine itself, saving floor space for more machines.

—Electric power saves dirt. No whirring belts scatter dust and dirt. No shaft bearings drip oil.

—Electric power saves light. No belts and shafts throw shadows and obstruct sunshine.

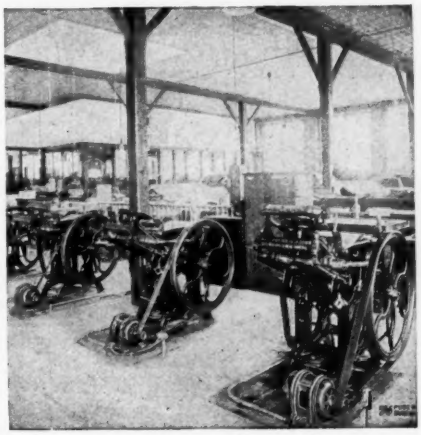


The motor is mounted right on the lathe itself. That saves floor space.

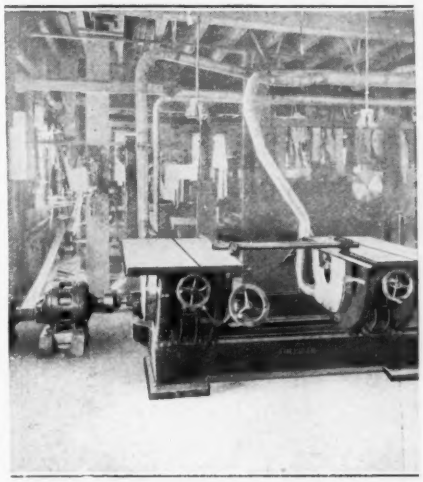
—Electric power in many cases permits of a faster speed, and increased output.

The flexibility of electric power makes it adaptable in every emergency. Motor-driven machines are often mounted on rollers, and moved about, where it is easier than to shift the work, and the connection is made by "plugging in" at convenient points. In every industry, from a steel rolling mill to a small print shop, electric motors are in use today, solely and simply because they are more economical and efficient than old-time belt and shaft methods. Even in woodworking plants, where the refuse is used as fuel, the saving from electric drive is found to overbalance this obvious advantage for steam.

Improvements in the last few years have placed the alternating current motor in a new light for factory operation. A type can be found among the single phase or polyphase induction motors for any service, large or small, constant or variable speed. Single phase motors are made with a high starting efficiency and a torque at starting of 2 1-2 times the normal running torque. Control methods have been so simplified that in many cases a double pole switch does the work. Don't think your factory is too far from the lighting company's plant to use power—the single phase motor can be put on your lighting circuit. These motors will give you that extra power just where you want it without extra wiring or the running of special power circuits.



Electric motors driving printing presses. Note the absence of "transmission clutter"



This Crocker-Wheeler motor drives the whole mill with less power than was required for friction load alone before

There is an old adage, "Don't Put All Your Eggs in One Basket!" It applies here. It is wise to shift responsibility where you can, with economy. Let the central station manufacture the power. Leave your own hands free for your own work. Save the money wasted in friction load. Take the profits that electric power efficiency will bring.

Electric Control—What it Means

To control an elevator from any floor, whether you are in the car or not, and no matter where the car may be; to have a water tank keep itself full, and not too full, whether you see it or not; or to open and close ventilators and skylights, and start exhaust fans, with no one within 500 feet of them, may seem like magic, but it isn't. It's efficiency. That is the sole purpose of the modern electric devices for control. They save time, they save labor, and they take innumerable worries off the mind of the factory manager. They help make things "fool-proof."

Electric Heat in Factories

Industrial Heating Appliances Effect Big Economies in Labor and Spoilage

It would take a long list, nowadays, to cover the many and varied uses to which electric heat is being put in shops and factories. These industrial heating appliances came long after the

Hats are made entirely with electric heat nowadays, adapted to every necessary tool

motor, but already the adaptability of electric heat is developing opportunities for better and more efficient heating processes in almost every industry where heat is used. Electric service, for most manufacturers, no longer need be restricted simply to light and power.

Heating processes, by electricity, have certain inherent advantages that offer efficiencies and economies of labor and material that are impossible by any other system. There is an absolutely accurate control of temperature, for instance, unaffected by the skill of the operator. The length of time necessary to do a stated amount of work can, therefore, be predetermined with assurance, facilitating greater speed and increasing the output.

Moreover, the heat energy is applied directly to the work at hand, and is not dissipated or wasted into the air. There is no flame, no dirt, no soot, and no spoilage due to flame scorch, uncleanliness or uncertainty of control. This reduces the insurance rate. The air of the room is not contaminated nor heated, and because drafts have no effect, proper ventilation can be provided. Also, because the devices are comparatively small and their location not governed by piping, less space is required and the appliances can be placed in the position most convenient to the operator. It is obvious that this must provide many opportunities for those little economies in labor and shop methods, which mean constant saving in waste time and spoilage.

For example, electric heat is now being used as practically and economically superior to the old methods—

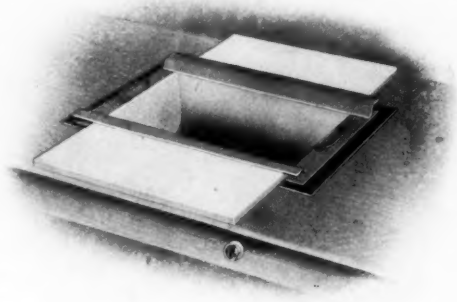
—For annealing—A great variety of annealing furnaces are made, ranging in product from watch springs to machine tools.

—For boilers—Produce high pressure steam in small quantities, at points not easily supplied, for sterilizing, etc.

—For brazing, soldering and branding devices—Great efficiencies are accomplished here. Brands are made, for instance, by simply rolling casks over the brander.

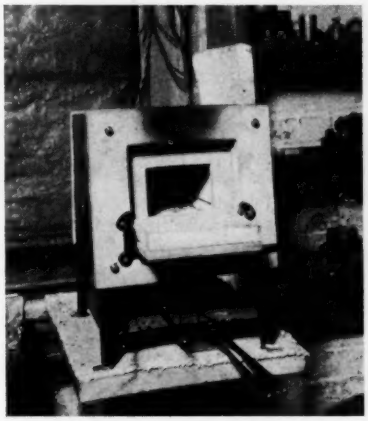
—For glue pots and heaters—Used in all industries, with great saving in quantity of glue, and in labor.

—For ovens and heaters for Japan, lacquer, varnish, pitch, insulating compounds, paraffin, sealing wax, or oil—Absence of flame and absolute control of heat is a great advantage here.



An electric chocolate cooker. This shows the simplicity of the electric method. It just sets into a table.

—For special heaters for candy and chocolate factories, and special tools for furniture, shoe and hat factories, and innumerable other situations, where a self-heating tool produces



A "multiple unit" electric annealing furnace. New parts can be inserted if worn or burned out

better work with great saving in labor and spoilage.

Manufacturers of electric heating devices have taken up one industry after another and developed electric processes which have done the work with a better efficiency and a consequent higher profit to the manufacturer. Nothing seems too small to offer an economy, even to the drying of the paste on cigarettes.

Many manufacturers have assumed that the use of electric devices for industrial heating processes is expensive. This is not so. The growing demand for such appliances is due alone to the practical economies they produce, and no factory man who uses local heat in any form should neglect to investigate the opportunities for saving money by the substitution of electricity for present methods.

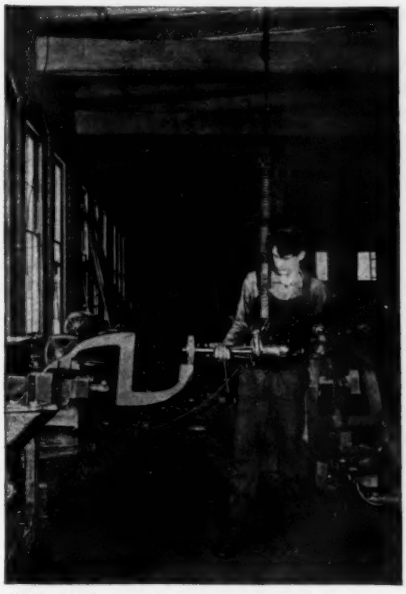
Portable Electric Tools

A Means of Cheapening the Cost of Shop Work

The largest item in the cost sheets, in the machine shop, is always labor, for it is the labor that makes the price, and a saving in labor is a gain in profit. Here's where the portable electric tool pays for itself over and over again, through time economy in drilling, grinding, milling, and boring.

It is often hard to take the work to the tool, when it is heavy or unwieldy, and sometimes special gear is rigged to handle it. It would save time and the money value of that labor to take the tool to the work, and this is just what is done in the shop where there are portable electric drills and grinders. These tools are light in weight, and fitted with handles and breast plates, and are operated with the utmost facility, and the most accurate results. They can be connected wherever there is an electric light socket, and by the use of long cords can be carried wherever needed.

But there is another economy in the use of portable electric tools, which appeals to every man who operates a shop. He can place the tool in the hands of regular workmen or apprentices, and let them do their own drilling, for these tools are fool-proof, and it is not necessary to put everything on the machine in the care of a skilled mechanic. Also, in rush work, the job is not held down to the capacity of



With electric portable tools, if the work is unhandy, you do not move it.

the drill press, for extra men can jump in, with the portable electric, and the work is done. And in contrast to the pneumatic drill, there is no air hose to leak or kink, and no valves to get out of order.

These drills and grinders are made in various styles, and adopted for classes of work to meet the needs of the garage, shop, and factory, but their chief value lies not in convenience, but in absolute economy of labor, in a direct saving in the cost of the work. Portable electric tools pay for themselves at once, in the money they earn.

Saving Profits With a Pump

The Motor-Driven Pump Offers Another Efficiency for the Factory

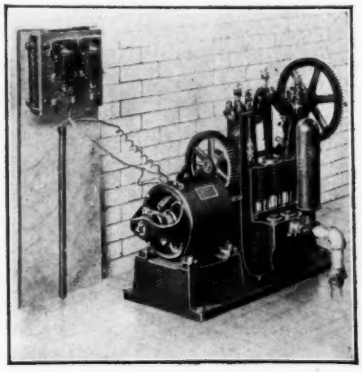
Pumping is an ever-present problem with the factory man, for those industrial plants which are able to rely on city water, both for utility and for fire protection, are in the minority, since there are more factories in outlying districts and small towns than in the zones of high pressure city water. Therefore, the electric pump brings a very important economy and convenience.

As many types of electric motor-driven pumping equipment are available as there are conditions encountered in drainage and water supply, and in every case the simplicity and dependability of the electric method make it more economical and efficient. The cost of installing an electric pump is usually considerably less than with other systems, and the loss of power in friction and leakage is greatly reduced. That means money saved in pumping costs.

There are many other advantages:—

The electric pump is not dependent upon the location of boilers and the running of steam pipes, for the wires can be carried anywhere, and the pump will operate right where it is needed. Moreover, the dangers of injury to steam pipes, the losses from condensation, the possibilities for trouble from steam leakage, and the problem of disposing of the exhaust steam encountered with steam equipment, are all avoided, and there is no heat. Also, the electric pump works anywhere, in any out-of-the-way place, without expert supervision, and with no expense except when the pump is actually running, for it is not necessary to keep boilers going to provide for fire protection. The electric pump is always ready to start at an instant's notice. If the fire does come, there is no delay.

These are the major efficiencies, but, in addition, there are innumerable factors of convenience and resultant economy. The electric pump can be mounted on trucks, and moved about, when desired. It can be controlled automatically from a distant point, in boiler feeding, or elevator service, for instance, when the water pressure or tank level rises or falls beyond a certain point, and there is no shock with each stroke of the plunger, as with many pumps, a most important feature, where the distributing pipes have a number of turns.



An electric motor-driven pump. The handiest and most efficient pump obtainable.

But, above all, comes the greater mechanical efficiency of the pump itself. Even though the steam plant is to remain in operation, the factory manager can actually reduce his pumping costs by two-thirds or more, by installing electric motor-driven equipment. In addition, there is still further saving in boiler capacity, and the expenses of maintenance and attendance.

The electric pump offers another opportunity for introducing a practical economy, an incidental efficiency, that will rescue many dollars of profit, year after year.

A Time Clock for the Work Itself—Not the Workmen

Not long ago a certain factory manager complained to the electric company, that his plant did not seem to be turning out as much work as before the machines were driven by electric motors. A curve-drawing meter was installed to show just how much power was being used every hour of the day, and the result was interesting.

The red line on the meter chart, instead of jumping from no load to full load at 7 o'clock, when the factory opened, dropping at noon, and showing another full period from 1 o'clock to quitting time, had a very different story. The meter demonstrated that it was taking from 20 to 30 minutes at 7 o'clock and at 1 o'clock before all the men were at work. The load was gradually increasing for fully a half hour, while the men talked and got ready to begin to work, and for about 15 minutes before noon and quitting time it gradually fell off because the men were beginning to wash up ahead of time. Fully three-quarters of an hour of the full capacity of the plant was being sacrificed to lax discipline. This was corrected, and the curve-drawing meter showed the result—the output jumped over 10 per cent.

This factory man had simply discovered that his production was not what it should be, and, the motors being new, he thought they were the cause. This curve-drawing meter convinced him, for it is an absolutely infallible "time clock" for the work itself. The men may "punch" a regular clock, and you know how many hours they spend in the plant, but you don't know what they do. With electric power and this meter you know that your machines are not loafing.

WagnerElectric
Manufacturing Company, St. Louis, Mo.

THE Wagner Company is in a better position than any other manufacturer to advise on Power Distribution Requirements.

This is so because they are the only company offering a complete line of both single-phase and polyphase motors.

Self-starting single-phase motors up to 50 horse-power.

Polyphase motors up to 400 horse-power.

SINGLE-PHASE MOTORS
POLYPHASE MOTORS
A. C. GENERATORS
TRANSFORMERS
INSTRUMENTS
A. C. RECTIFIERS
ROTARY CONVERTERS

GOOD ILLUMINATION MEANS EFFICIENCY

Scientific management consists in cutting out waste---waste time and waste effort. It isn't a scheme to make men work harder; it's designed to make hard work easier.

Scientific Buckeye Illumination is nothing more nor less than scientific management.

It enables your operatives to produce more with less effort. Waste time, inaccuracy, lost motion, nervous strain, are reduced in the mill or factory that is lighted by the Buckeye System. Accidents, spoilage, and inefficiency are inevitable where the light is poor.

And scientific illumination---which is the kind I design to assist your workmen and increase your production---costs no more than any other kind of illumination. It's just a matter of "know how."

I know how. I am a mill man and know what the operative needs. As a result of practical experience I have developed a practical working system of mill and shop illumination that pays you a profit because it eliminates waste.

Let me give exact figures.

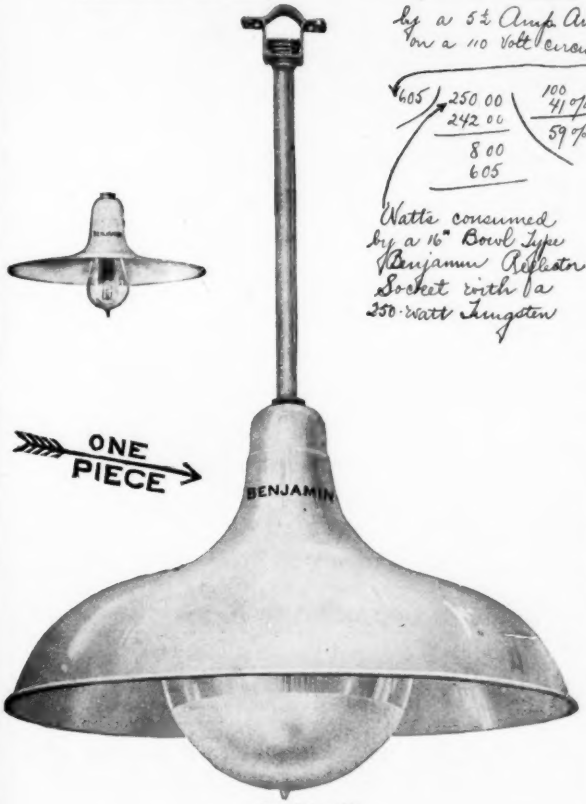
J. M. SMITH,
Manager Industrial Lighting Department

THE BUCKEYE ELECTRIC CO.
CLEVELAND

CHICAGO PITTSBURGH DALLAS BOSTON

Benjamin Shop and Factory Fixtures

Reflector Sockets



Cat. No. 6149

Watts consumed by a 5½ Amp. Arc on a 110 Volt circuit

605 / 250 00 / 242 00 / 8 00 / 605

100 / 41% / 59%

Saving of a Reflector Socket in current consumption as compared with an arc lamp

Watts consumed by a 16" Bowl Type Benjamin Reflector Socket with a 250-watt Tungsten

I had never figured it before

Large Users of Benjamin Fixtures

Missouri Pacific Railroad
Pullman Car Company
Illinois Central Railroad
Chicago & Alton Railroad
Davenport Locomotive Works
United States Steel Company
Tennessee Coal & Iron Co.
American Tool Machine Co.
American Steel & Wire Co.
Gulf Pipe Line Company
Fairbanks, Morse & Company
Liquid Carbonic Company
Etc., etc.

Orders for many of the large corporations run into thousands of lighting units. In many instances they are installed both at headquarters and in numerous subsidiary plants covering as many as five and six States

There is a correct light for every kind of industrial plant
There is also a correct light for every department of an industrial plant
These features have been given particular study by our engineers

We Manufacture Cluster and Single Unit Fixtures Covering all Conditions of Industrial Lighting

Write us for Photographs of Large Installations. Where Shall we send Bulletin "S"?

Benjamin Electric Mfg. Company

Manufacturers of Enameled Steel Reflector Sockets and Mill Clusters. Tungsten Fixtures for In and Out-Door Lighting. Wireless Clusters. Lighting Specialties

NEW YORK
27 Thames St.

CHICAGO
120-128 So. Sangamon St.

SAN FRANCISCO
151 New Montgomery St.

Crocker-Wheeler Induction Motor, ½ to 500 H.P.

You can get more power for less money with this motor than with any other on the market because

It Requires Less Current to Run

This is due to the high efficiency that has resulted from the use of the magnetic slot bridge—a feature found in no other machine on the market.

It Calls for the Fewest Possible Repairs

The magnetic slot bridge permits the use of form wound coils, with their well known insulating qualities. The large air gaps used in these machines mean long life in the bearings.

Just why the magnetic slot bridge has secured the increase in efficiency and insulation strength, and how it has been possible to use such long air gaps in Crocker-Wheeler induction motors are clearly outlined in pamphlet SE.

It will pay you to send for it.

CROCKER-WHEELER CO.

Ampere, N. J., Birmingham, Boston, Cleveland, Chicago, Denver, Detroit, Newark, New Haven, New York, Philadelphia, Pittsburg, San Francisco, Syracuse.

January is a good month to campaign for Ornamental Street Lighting—There are several real reasons:

Christmas is past, the inventories are taken and then comes a lull, with a little time to think things over. Everybody knows just where he stands and if the showing was good he feels prosperous; if it wasn't, he is eager for something to help build up better business. It is the psychological time to promote co-operative street lighting. And starting now gives you plenty of time to have the lights ready to turn on with due ceremony, when the warm spring evenings come.

The January issue of ELECTRICAL PROGRESS will be an Ornamental Street Lighting Number—a clear presentment of this live, timely proposition, a forceful appeal not only to the merchants and business men, but to the city officials and clergy who can so strongly influence such a movement. It will tell what Ornamental Street Lighting has done for other towns, other city districts, and what it will do to stimulate business in your town, your shopping centres. There will be good pictures, lots of facts and figures and plenty of "how to" suggestions.

How many merchants, business men, city officials and others have you, who can help a campaign for decorative street lighting in your town? Send a copy of this next ELECTRICAL PROGRESS to every one of them.

How many shall we ship you after New Year's?

THE RAE COMPANY

PUBLISHERS

17 Madison Avenue New York City

"SLOGAN SIGNS ARE OLD—

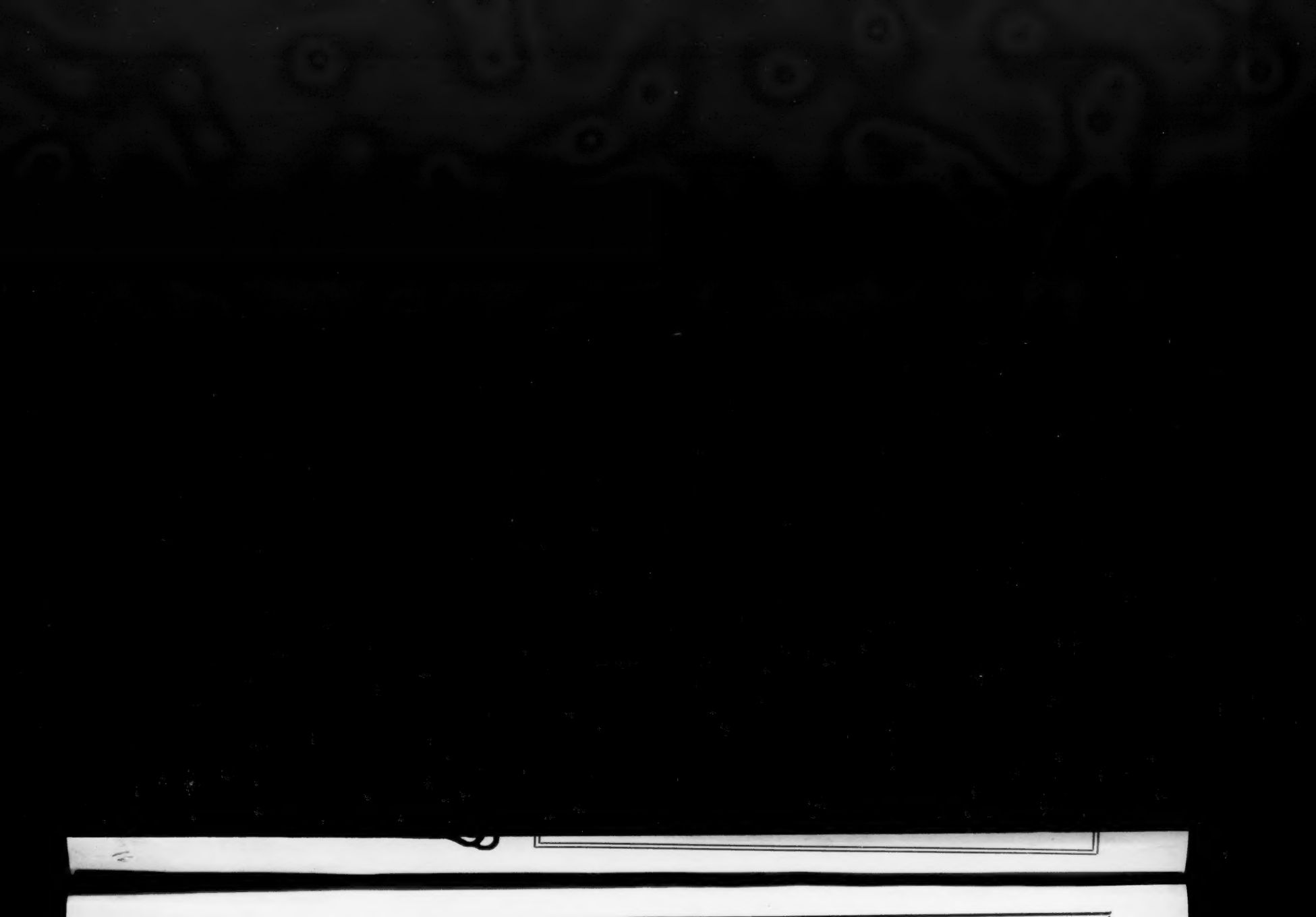
There's nothing in that any more"

That's what a central station man said to me the other day, and there are many more who are thinking that same mistake. Perhaps they are old to the central station—it's not a brand new idea any more to them—but it *is* a brand new idea in every town that hasn't had the scheme laid before it. It's plenty new and interesting to every town that hasn't one.

Remember this: the last year has seen a wonderful spread of decorative street lighting. Bodies of merchants have been organizing to "promote" their towns or their districts or their streets. Here's a live, practical "hunch" from Valentine—These merchants will use co-operative electric signs for the same purpose, if you tell them how—signs for the town, the district or the street. If you don't know just how to go about it, I'll be glad to help.

I can show you how to turn the trick, and I can build you the sign that will make it a big success.

—T. E. Valentine.

Valentine Electric Sign Co.

Atlantic City, New Jersey